

**Marubeni Ventures Announces Investment in Floadia,
A Developer of Low Cost and High Reliability Flash Memory IP Cores**

Marubeni Ventures Inc. ("MVI") announces investment in Floadia (Headquarters: Tokyo, Representative Director: Kosuke Okuyama), which develops flash memory IP cores that can achieve low cost and high reliability. Floadia is a startup company established in 2011 by engineers from Renesas Electronics. As an intellectual property (IP), Floadia licenses out the processes and circuit data necessary to manufacture flash memory, designed to be integrated into microcontrollers, power semiconductors, and various sensors, to LSI vendors and semiconductor foundries.

Compared to existing flash memory aiming the same applications, the flash memory developed by Floadia requires fewer manufacturing steps to integrate into a chip, resulting in significantly lower manufacturing costs. Also, the flash memory is guaranteed to operate over a higher temperature range, making it suitable for applications in harsh operating environments, such as automobiles. Power consumption is also reduced as the power required for data erasure, and writing is extremely low at one-millionth of that of competing flash memory IP cores. Due to these features, Toshiba has already adopted Floadia's flash memory for its microcontrollers, including those for automotive applications. The flash memory was also adopted for smartphone microcontrollers manufactured by a foundry in Taiwan.

Taking advantage of its flash memory features, Floadia has also begun to develop dedicated circuits for so-called "neuromorphic computing," which mimics information processing by neurons in the brain. Once realized, this circuitry will make it possible to perform matrix calculations, which are often used in AI algorithms, at high speed, and with ultra-low power consumption. This feature enables users to run advanced inference based on AI algorithms in battery-operated edge computing environments.

MVI, as the corporate venture capital (CVC) of Marubeni Corporation, has been investing in startups from the seed stage to early stage around the world to promote innovation and create new businesses beyond the existing framework since its establishment in June 2019. (URL: <https://www.marubeni-ventures.com>). The company plans to support Floadia's business expansion through introductions to business partners.

About Floadia

Headquarters: Tokyo, Japan
URL: <https://www.floadia.com>
Representative Director: Kosuke Okuyama
Shareholders: INCJ, Teijin, Miyako Capital etc.

