

NanoBridge Semiconductor, Inc. secures series A financing from Japan Industrial Partners and NEC for launching full-scale business

Tokyo, December 1, 2020 - NanoBridge Semiconductor, Inc. (NBS), which designs and manufactures advanced circuits and conducts IP-licensing sales using NanoBridge®(*1), a resistance-change switching technology for semiconductors, today announced that it has issued series A preferred stock to Japan Industrial Partners, Inc., NEC Corporation (NEC; TSE: 6701), and other companies to raise approximately 130 million yen.



NanoBridge Semiconductor, Inc. logo

NBS is a venture company established by NEC researchers in September 2019. NanoBridge is a technology to control the creation or destruction of nanometer sized metal bridges in a solid electrolyte through the application of voltage, thereby realizing on and off-switch status. It is attracting attention as an ideal technology for FPGA (*2) and memories that can repeatedly rewrite circuits. This is because NanoBridge consumes less power, as it does not require power to maintain

an on or off status, and is highly resistant to both radiation and extreme temperatures.

NEC has an established history of promoting the commercialization of NanoBridge, and decided to transfer NanoBridge-related intellectual property to NBS and conduct a spin-off in order to further drive the growth of this business.

Through this fundraising, NBS will demonstrate its technologies in areas where radiation resistance is essential, such as aerospace and communications infrastructure. At the same time, NBS will develop a broad range of NanoBridge businesses for domestic and international manufacturers, such as IoT device and automobile manufacturers, while aiming to achieve sales of 5 billion yen in 2025.

“The discovery of the atomic switch, based on the movement of atoms rather than electrons, was a major breakthrough in basic science,” said Richard E. Dyck, Director, Japan Industrial Partners, Inc. “The team at NanoBridge, after two decades of skilled and focused engineering, has transformed this breakthrough into the realm of practical application. It is exciting to see the NanoBridge atomic switch can now be manufactured economically and in volume, on standard production equipment.”

“Under the Mid-term Management Plan 2020, NEC is strengthening its business development capabilities and commercializing competitive technologies,” said Osamu Fujikawa, Senior Vice President, NEC Corporation. “We have invested in NBS to support the enthusiasm of our researchers

for taking on new challenges and driving the advancement of outstanding NEC technologies into the worldwide marketplace.”

Notes

(*1) NanoBridge(R) is a resistance-change type switch developed by NEC together with the National Institute for Materials Science. By controlling the creation or destruction of bridges formed by metal atoms in a solid electrolyte through the application of voltage, its resistance changes significantly, functioning as a wiring switch. The switch's resistance value is maintained even when the power supply is turned off, giving it non-volatility. Circuit non-volatility is an effective way to achieve reduced power consumption in ICT devices and systems. NanoBridge(R) is a registered trademark of NEC.

(*2) Field Programmable Gate Array. Logic LSI design technology for rewritable field programmable gate arrays.

About NanoBridge Semiconductor, Inc.

NanoBridge Semiconductor, Inc. (NBS) has established in 2019 at Tsukuba to “Deliver ICT applications everywhere with Nanobridge technology”. NBS provides low-power and rad-hard programmable AIoT terminals and nonvolatile memory through NanoBridge. At NBS, customers come first. NBS strives to build deep relationships with customers and works together for opening up New Normal Society. For more information, visit NBS at <https://nanobridgesemi.com/>

About Japan Industrial Partners, Inc.

Japan Industrial Partners (JIP) is a private equity fund management company established in 2002. JIP has strong

track records in supporting strategic carve-outs that realize growth potential and encourage autonomous growth. JIP's main philosophy in investing in Japanese companies is to realize continuous growth of the business by bringing better products and services to the users and customers and by creating a productive and rewarding work place for its employees.

About NEC Corporation

NEC Corporation has established itself as a leader in the integration of IT and network technologies while promoting the brand statement of "Orchestrating a brighter world." NEC enables businesses and communities to adapt to rapid changes taking place in both society and the market as it provides for the social values of safety, security, fairness and efficiency to promote a more sustainable world where everyone has the chance to reach their full potential. For more information, visit NEC at <https://www.nec.com>