Blackrock Microsystems Supports an Ambitious European Union Funded Partnership for Brain-Computer-Interface Connectivity

Collaboration merges Blackrock's BCI technology to create the first battery-free, high-speed, and wireless in-body communications platform.

SALT LAKE CITY, UTAH, UNITED STATES, March 19, 2021 /EINPresswire.com/ -- Blackrock Microsystems, the world leading brain-computer interface (BCI) technology innovator and manufacturer, announces today the collaboration between their European division, Blackrock Microsystems Europe GmbH (Germany), and several other European organizations including the coordinating entity Uppsala University (PI: Prof. Robin Augustine), The SiNANO Institute, Scuola Superiore Sant'Anna, LINKS, Deutsches Primatenzentrum, Norwegian University of Science and Technology, and the Department of Electronic Systems to form B-CRATOS – "Wireless Brain-Connect inteRfAce TO machineS". This prestigious group has received a four-year grant for EUR 4.5 million ($5.4 USD) as part of The European Union's Horizon 2020 Research and Innovation Programme to develop a brain-machine-body system allowing the brain to re-connect and wirelessly stimulate the nervous system to restore various functions, primarily prostheses.

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>
> *Prof. Hans Scherberger*

Blackrock Microsystems will provide an ultra-low power ASIC brain implant potentially enabling millions of people who have lost a limb or have paralysis to restore function. Prof. Hans Scherberger from the Deutsches Primatenzentrum says, "The electrode and implant module are critical components in the B-CRATOS project. Working with Blackrock gives the entire team great confidence given their deep expertise of brain-computer interface technologies and their reputation for delivering reliable brain implants."

"The custom low-power Blackrock chip will be core to B-CRATOS' novel technology," says Marcus Gerhardt, Co-founder and CEO of Blackrock as he continues, "We are proud to be a contributor to this impactful partnership. It is great to see Europe take a leadership position in developing

next generation BCI technology. Through platforms such as B-CRATOS, we will have profound impact on next-generation neuroprosthetics and brain-computer-interfaces, closed-loop brain stimulation systems, and electroceuticals. This collaboration has assembled the most comprehensive and ambitious group of researchers and innovators throughout Europe and has allowed us to expand our resources in Europe."

Leading this focused expansion is Dr. Paul Wanda who joined Blackrock Microsystems Europe in 2021 to work on B-CRATOS. He will draw on his wealth of experience gained as project manager at the University of Pennsylvania for the DARPA RAM project, an ambitious multi-site effort to research and develop a novel closed-loop brain stimulation system to improve human memory performance. Dr. Wanda is excited by the ambitious B-CRATOS project and its potential to impact human healthcare. He stated that "together with the B-CRATOS partners, Blackrock Microsystems Europe will create a battery-free, wireless implant utilizing the Blackrock Utah Array and custom low-power Blackrock chips to record from and precisely deliver stimulation to specific regions of the brain, enabling closed-loop control of an advanced robotic limb."

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 965044.

Blackrock Microsystems Europe GmbH's mission is to provide innovative tools and neurotech expertise to translate technology into novel, implantable clinical solutions that improve human lives. Blackrock's technology is at the core of worldwide innovations in Brain-Computer-Interfaces (BCI). Enabled by our expertise in precision electrode technology, signal processing and stimulation, BCI Pioneers have been able to SeeAgain, HearAgain, MoveAgain, and TalkAgain. For more information, please visit www.blackrockmicro.com

About other B-CRATOS Partners

Uppsala University, B-CRATOS coordinator: A research university in Uppsala, Sweden. Founded in 1477, it is the oldest university in Scandinavia. It ranks among the world's 100 best universities in several high-profile international rankings. The university uses "Gratiae veritas naturae" as its motto and embraces natural sciences. Uppsala belongs to the Coimbra Group of European universities and to the Guild of European Research-Intensive Universities. Further information on Uppsala University can be found at www.uu.se

The SiNANO Institute: The European Academic and Scientific Association for Nanoelectronics, gathering 24 renown Universities and Research Centers from 15 European countries. Sinano carries out a role of representation and coordination of the associated Organizations in order to strengthen the impact of the research activities at EU level in this very important field for many future applications and markets. More information on: www.sinano.eu

The BioRobotics Institute of Scuola Superiore Sant'Anna
An integrated system pursuing frontier research, advanced education and innovation in the

fields of biorobotics and bionics. The Institute explores the possibility to reach an inexhaustible springboard for the creation of applications that are useful for man. This is achieved through bioengineering, mechatronics and robotics as well as smart systems inspired by the living world. The BioRobotics Institute has built a vast wealth of knowledge and expertise in several fields such as: social robotics, industrial robotics, assistive/rehabilitation/surgical robotics, neural engineering, cognitive systems, bio-inspired robots and their ethical, legal, social and economic implications. Further information on Sant' Anna Pisa can be found at: www.biorobotics.santannapisa.it

LINKS - Leading Innovation & Knowledge for Society: A Foundation born from an agreement between Compagnia di San Paolo and Politecnico di Torino counting more than 160 researchers that has been active in the fields of applied research, innovation and technology transfer at national and international level for about 20 years. Further information on LINKS Foundation can be found at https://linksfoundation.com

The Deutsches Primatenzentrum (DPZ; German Primate Center): A non-profit institute funded by the Federal Republic of Germany and its federal states. The DPZ's mission is to serve as a center of excellence for research with primates and as a service and competence center for those institutions in Germany and abroad that house primates and/or do primate-related research. For further information see here: www.dpz.eu/en

Norwegian University of Science and Technology (NTNU): The largest and most important university in Norway. It has 14 faculties and 70 departments and divisions with an operating income of NOK 9.6 billion (€ 900 million). While NTNU's primary responsible to educate Norway's engineers and technical experts it offers more than 400 study programs in natural sciences, humanities, social sciences, economics, medicine, health sciences, education, architecture, entrepreneurship, and fine and performing arts.

Department of Electronic Systems (IES): One of eight departments at the Faculty of Information Technology and Electrical Engineering at NTNU. The research is organized into 7 groups that have activities in materials and nanoelectronics, biophotonics, integrated electronic circuit design and systems, acoustics, radio systems, signal processing, and wireless smart systems. Further information can be found at www.ntnu.no

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