News Release

INCJ to invest in next-generation DNA sequencer development company, Quantum Biosystems Inc.

Tokyo, February 9, 2015–Innovation Network Corporation of Japan ("INCJ") announced today its decision to make an investment of up to 3.3 billion yen, a part of which has been executed, in Quantum Biosystems Inc. ("QB"), a company that develops innovative DNA sequencers using tunnel current, as funding needed for future business development.

Mitsubishi UFJ Capital Co., Ltd. has also executed to invest in QB as a new investor in addition to current shareholders JAFCO Co., Ltd., The University of Tokyo Edge Capital Co., Ltd. ("UTEC") and Mizuho Capital Co., Ltd.

QB is a University venture that aims to develop a next-generation sequencer based on the research results of Professor Tomoji Kawai and Masateru Taniguchi of Osaka University that demonstrated the DNA analysis principle using a single-molecule amperemeter. Based on a gating-nanopore method*, the group of professors have for the first time in the world succeeded at measuring tunnel current that is generated when DNA/RNA passes through a one nanometer-wide gap to identify base sequences.

The need for ultra high-speed DNA analysis and ultra-sensitive, ultra-fast detection of viruses and allergens such as pollen is yet to be met in the medical field. Existing DNA sequencers are burdened with longer testing times because of the need to amplify analysis DNA, as well as difficultly in achieving basic low costing because of the need for fluorescent reagents used in DNA nucleotide sequence analysis. QB's approach through single molecule analysis using tunnel current does not require DNA/RNA amplification because in principle one molecule of DNA is sufficient, and does not require fluorescent reagents because it is possible to directly identify base sequences using electrical current. Through these advantages, faster and cheaper analysis is made possible, and since QB has utilized a chip device made with semiconductor technology especially good for mass-production and integration, it is expected that costs will greatly be reduced. Furthermore, the integration of a nanochip system using tunnel current makes the high-speed analysis of multiple DNA at one time possible and also helps improve the accuracy and speed of sequencing.

QB will carry out global business development in the DNA sequencer market based in Japan and the United States, which will accelerate global growth. Not limiting itself to the development, manufacturing and sales of next-generation DNA sequencers, QB also plans to move forward with

*Gating-nanopore method: Method for decoding DNA/RNA base sequences by measuring tunnel current flowing through base molecules as DNA passes through nanogaps using the differences in electrical resistance between four base molecules.

a wide-range of business developments, with extensive analysis services from pharmaceutical companies and academia in its sights.
QB hopes that by making it possible to identify the efficacy and safety of patient-specific medicines and testing, through the proliferation of high-speed, low-cost DNA sequencers, it will lead to the promotion of individualized medicines.

As well as providing QB with the funding necessary for promoting future business development, INCJ will also provide management support including the dispatch of an outside board member, enhancement of business development and assistance in alliances with strategic partners. Through these initiatives, INCJ will help to realize the commercialization of next-generation sequencers that use a world-first direct tunnel current measurement method, make great leaps in accelerating global growth in the sequencer market, and create a platform for accelerating the development of individualized medicine and new drug research.

About Quantum Biosystems Inc.

Established:	January 2013
Main focus of business:	Development of innovative single-molecule DNA sequencers
Headquarters:	Osaka-shi, Osaka
President and CEO:	Toshihiko Honkura

About Innovation Network Corporation of Japan (INCJ)

INCJ was established in July 2009 as a public-private partnership that provides financial, technological and management support for next-generation businesses. INCJ specifically supports those projects that combine technologies and varied expertise across industries and materialize open innovation. INCJ has the capacity to invest up to ¥2 trillion (approx US$20 billion).
To date, INCJ has invested approximately ¥800 billion in a total of 79 projects and is currently focused on a broad range of areas from green energy, electronics, IT and biotechnology to infrastructure-related sectors such as water supply. INCJ maintains a hands-on approach to investment, engaging in the business development of cutting-edge core technologies through intellectual property funds, expansion of venture companies and aggressive overseas development through initiatives such as restructuring and mergers of tech businesses and acquisitions of foreign companies.

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<Appendix> INCJ to invest in next-generation DNA sequencer development company, Quantum Biosystems Inc.

Target: Quantum Biosystems Inc.
Outline: Development of innovative single-molecule DNA sequencers
Authorized Investment: ¥3.3 billion (maximum)

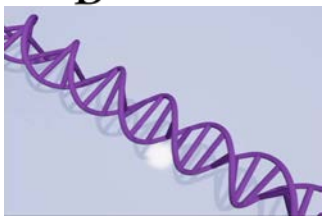
INCJ — Investment and management support such as partnering support

JAFCO — Investment and management support

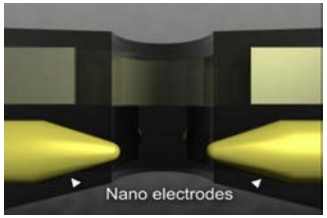
UTEC Co-Founders for Innovation — Investment and management support

MIZUHO / Mitsubishi UFJ Capital — Investment

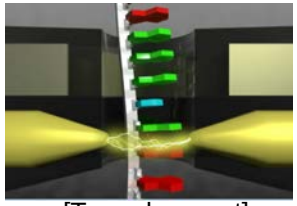
Quantum Biosystems Inc.



[Base sequence]



[Gating-nanopore]



[Tunnel current]

- First in the world to succeed at identifying base molecules through measuring changes in tunnel current
- Can use tunnel current for high-speed, low-cost analysis

Provide technology
Joint development

大阪大学 OSAKA UNIVERSITY

Investment and joint development

Semiconductor Company

- Support commercialization of next-generation sequencers using world-first direct tunnel current measurement method
- Platform to accelerate individualized medicine/new drug research to help reduce side-effects and lower medical costs