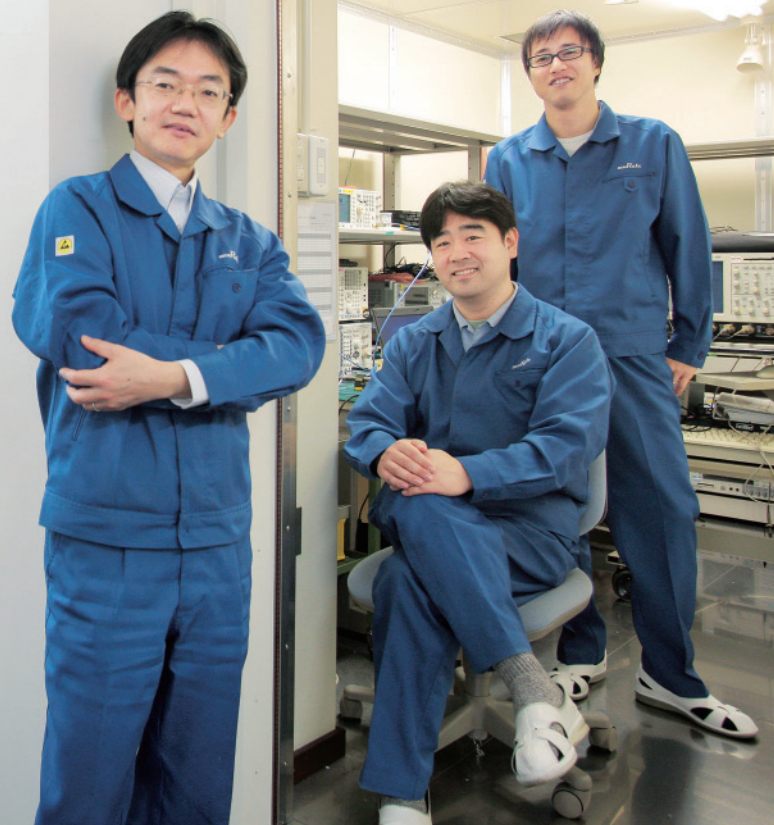


Feature Articles: Business and CSR

Bluetooth® Smart Module

**Always connected, Always vigilant.
New security and safety for society
made possible through
communication technology.**

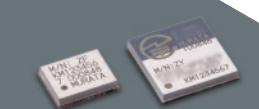
Photo (from left)
Murata Manufacturing Co., Ltd.
Solution Service Department
Communication Business Unit
Tetsu Nishimura
Murata Manufacturing Co., Ltd.
Connectivity Module Products Department
Communication Business Unit
Yuichi Ito
Masato Iemura



Energy System Demonstration Test

**In order to build
a sustainable society.
The challenge of a
next-generation
“smart house”.**

Photo (from left)
Murata Manufacturing Co., Ltd.
Device Research & Development Center,
Makoto Fujita
Kaori Watanabe
Hiroyuki Miyamoto



Everything connectable wirelessly through super miniature size components that fit on the tip of your little finger... That sums up Murata's technology and ideals.

Offering solutions for people who need the assistance of technology that is connected at all times, in all places, without them needing to be conscious of it.

The wearable devices that have recently been a hot topic, like smart watches and smart glass, are also attracting the attention of medical and nursing sites. These devices have the requisite ability to connect wireless to smartphones, etc., and our Bluetooth® Smart Module delivers that desired short-range wireless communication function. By, for example, having it attached to the body at all times, it becomes possible to monitor information on bodily functions, including body temperature, blood pressure, heart rate, etc., for up to 24 hours. That information can then be transmitted to a hospital or care provider through a smartphone to assist in timely and detailed home care, such as with the early detection of signs of illness. Moreover, if built into a pedometer or body composition meter, etc., it can also be used as an aid in maintaining and improving health and fitness, as well as in safety control. It is presumed that such wearable devices will be used in situations in which they are in a state of constant wireless connection without the user needing to even

be conscious of them. And, in order for such devices to be wearable, the communication module must also be sufficiently small. At 5.4 mm × 4.4 mm, the Bluetooth® Smart Module offered by Murata is super small. And its super-low power consumption means several years of operation life is possible with a coin cell battery. The fact that frequent battery exchange is thus also unnecessary is an important point in order for the product to be continuously usable without the user even being aware of it. A society in which short range and long range wireless communications comprise cooperative networks, and vigilantly watch over us. There, people can enjoy the merits of advanced technology, without even being conscious of having accessed that technology. At Murata, we feel that such a social infrastructure is indispensable, especially for those who need the assistance of such technology, like the elderly, the disabled, etc. And our Bluetooth® Smart Module will contribute to the security and safety of humankind as a key device in the infrastructure of the future.

Constructing energy management systems that make “local production for local consumption” of electric power possible

After the Great East Japan Earthquake, the consciousness in Japan in regard to the issue of energy has heightened further. And various trials and attempts in order to accelerate the introduction of natural energy sources have been carried out around the globe as well. It is a “local production for local consumption” type of decentralized power source structure that is said to be the most sound in the case of a disaster and to be most compatible with natural energy. The “Yokohama Smart Community”, founded in June of 2011 with the idea of “building a town that supports life and culture through science and technology while learning from and utilizing Nature”, aims at that kind of sustainable society using “local production for local consumption” type of energy sources that does not pose a burden on the environment. As a member of its community, Murata has developed an energy system for next-generation smart houses in conjunction with Smart Energy Laboratory Co., Ltd. and dSPACE Japan K.K. and installed it in a building called a “Smart Cell”. There, we have conducted a demonstration

test in search of the optimal methods for energy use in the future. In order to realize the “generation”, “storage” and “wise utilization” of electric power, the system that is installed in that Smart Cell freely mixes ① the electric power supplied by the electric company (co-operative energy), ② electric power from solar power generation, and ③ the electric power stored in storage batteries. Its main features include the storing of normally unstable and difficult-to-use solar energy in a storage battery during the day, enabling its stable use at night. Also, even if a number of electrical machines and equipment are inadvertently operated all at once, this technology is able to transfer surplus power in an instant to those locations where the supply of electricity is low, so that there is no downtime due to either insufficient power supply or a breaker tripping. It also has a self-sustaining function that can supply electric power even during a power outage in times of a disaster. In this way, Murata is involved in technical development that contributes to security and safety in living, and the realization of a sustainable society.



The balance of supply-and-demand for electric power equalized through the effective use of natural energy sources... That is one way that Murata contributes to the spread of harmonious, decentralized power source networks.