# News Letter



January 25, 2013

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# Daiwa House Starts HEMS Business in Singapore in First Smart House Venture into Overseas Market

Daiwa House Industry Co., Ltd (head office, Osaka; President, Naotake Ono) announces the development of "D-HEMS<sup>1</sup>" (Daiwa House's Home Energy Management System) for the Singapore property market. It is collaborating with CBM Pte. Ltd.<sup>2</sup>, a leading facilities management company in Singapore. From here onward, both parties will work closely to customize this smart house solution to cater to the Singaporean lifestyle. With local customization, the solution has the potential to be implemented in residential developments across Singapore and in the region.

The first Singapore project to embrace this cutting-edge innovation is Echelon – a newly launched 508-unit condominium development by City Developments Limited (CDL)<sup>3</sup>, one of the greenest developers in Singapore and a local trend setter in green and sustainable development, and its joint venture partners Hong Leong Holdings Limited and Hong Realty (Private) Limited<sup>3</sup>.

This is the first made-in-Japan ECHONET Lite<sup>4</sup>-compatible HEMS to be adopted for use overseas.

They also plan to make use of the D-HEMS installed at demonstration models of the condominium at the ECHELON development to promote the sale of this system, principally in the Republic of Singapore and other Asian countries where CBM conducts business operations.

Detail:http://www.daiwahouse.co.jp/English/ir\_news/pdf/dh\_irnewsE130110.pdf

Notes:

- D-HEMS is a home energy management system designed by Daiwa House Industry for "smart houses" (i.e. automated homes, or digital homes). The system enables easy visualization of home electricity usage data, as well as efficient control of home appliances and equipment such as lithium ion storage batteries.
- 2. CBM provides a full range of Integrated Facilities Management (IFM), Energy and Environmental Sustainability services. Their professional expertise and customized IFM solutions are designed to meet clients' unique and changing demands and relieve them of their non-core operational issues. Accredited ESCO (Energy Service Company) in Singapore.
- 3. As Singapore's property pioneer since 1963, CDL is listed international property and hotel conglomerate involved in real estate development and investment, hotel ownership and management, facilities management and the provision of hospitality solutions. With an extensive network of more than 300 subsidiaries and associated companies under its wind, the Group owns and manages a solid portfolio of residential, investment and hotel properties globally. Its corporate network spans over 80 locations in 20 countries. Hong Leong Holdings Limited and Hong Realty (Private) Limited are also real estate developer.
- 4. ECOHONET Lite is a standard communications protocol recommended by the Ministry of Economy, Trade and Industry (METI) in December 2011 for application to the creation of HEMS for use within Japan.ECHONET has certified as a international standard.



The D-HEMS installed in a demonstration model of the condominium

#### Back ground

As part of its drive to offer niche sustainable solution services, CBM staff has conducted a wide-ranging survey of home energy management systems available in overseas markets with the aim of being one of the first enterprises in Singapore to adopt the HEMS concept, which enables home owners to easily monitor and control their own electricity consumption.

In the course of this survey, they were attracted by the advantages offered by Daiwa House's D-HEMS, which was on display at a demonstration model of our SMAxEco HOUSE, a single-family home equipped with lithium ion storage batteries. These advantages include practical design with the needs of the home owner in mind, such as a floor-plan display that enables the monitoring of electricity use on a room-by-room basis. CBM approached us with a proposal for business collaboration, and after a year-long period of negotiations and technical verification, the two sides reached agreement on the employment of D-HEMS in the ECHELON development.

#### Buisiness overview

D-HEMS is an application that employs Daiwa House Industry's Smarthouse Platform. In addition, it is noted for being highly customizable, and is compatible with the Housing API (an application programming interface for housing<sup>5</sup>) and the ECHONET standard communications protocol for home electronics and equipment in Japan.

The D-HEMS to be installed in the ECHELON will feature a recently released home server, an energy measurement unit<sup>6</sup>, and an adapter for communication with home appliances<sup>6</sup>, all compatible with the ECHONET Lite communications protocol and to be supplied by Daiwa House. CBM will install the system and provide maintenance and customer services. The system will be marketed through an international collaborative framework. For example, CBM will develop application software for the iPads used as control consoles for the system based on the

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D-HEMS concept and the communication specifications of the Housing API.

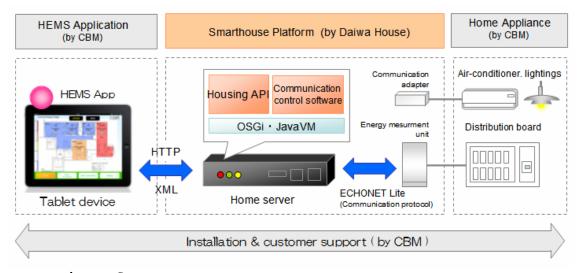
In addition, Daiwa House is collaborating with Japanese home electronics companies to spread the ECHONET Lite communications protocol in overseas markets, as this will allow us to meet the needs of local customers by selecting air-conditioning units, lighting fixtures, and other such products from among those available locally.

Notes:

5. The Housing API is a tool employed in developing application software enabling integrated control of appliances and equipment within the home.

http://www.daiwahouse.co.jp/lab/HousingAPI/

6. Both products are manufactured by Toshiba Lighting & Technology Corporation.



Overview of System

### Features of D-HEMS for overseas markets

(1) Real-time monitoring of energy consumption by Graphic User Interface (GUI)

Using handheld devices such as iPad, the home owner can easily monitor the amount of electrical consumption in each room of the home via a visual display in any place of the home. The system also shows power consumed in each room in an easy-to-grasp way, with five different colors employed to represent levels from "low power consumption" (blue) to "high power consumption" (red).

# (2) Centralized control of air-conditioning

The system offers centralized control of all air-conditioning units throughout the home via the owner's iPad. The iPad can display an air-conditioning remote control screen that lets the owner switch units on or off as well as change temperature and airflow speed settings, and enables monitoring of the temperature of each room and the status of each air-conditioning unit.

# (3) Electrical consumption records

The system includes a function<sup>7</sup> for storing and displaying records of home electrical consumption, enabling the owner to view records of amount of power consumed by room or by individual appliance, as well as electricity charges.

Note 7. The system can store and display electrical consumption records for the past five years.



Prototype startup screen for the D-HEMS to be installed in the ECHELON residential development

#### Residential properties overview



S\$800,000 for a 1-bedroom unit, from S\$1.19 million for a 2-bedroom unit, from S\$1.34 million for a 3 bedroom compact unit, from S\$2.13 million for a 4-bedroom suite and a penthouse from S\$7.15 million. Sales Preview: 28 Dec.2012 Start of operations: Jan. 2013 Estimated completion: 2016

Note: The above translations into yen are based on an exchange rate of \$70/S\$1.

Realizing a Better Future

We Build ECO

We aim to constantly play a leading role in society in realizing a better future for all humankind through proactive environmental activities based on our long-term vision. In all our business operations, we work to protect the environment by such means as helping mitigate global warming and promoting the recycling of valuable resources.

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