

## **Mitsubishi Electric Pioneers Water Sustainability in Singapore's Eco-business Park**

**For years, Green Buildings have taken centre-stage as the symbol of urban ecological friendliness. Today, Mitsubishi Electric's redefining technologies are making a splash in tomorrow's Blue Buildings that drive water sustainability.**

A pilot wastewater treatment system, powered by Mitsubishi Electric's cutting-edge technologies, was commissioned in early July this year in CleanTech One. CleanTech One is located in JTC's CleanTech Park – Singapore's first eco-business park. CleanTech Park is the epicenter of research and commercialization of advanced manufacturing and clean technology. As a living laboratory in the blue building, it offers companies' opportunities to test-bed their solutions at an estate-level or building-level.

This pilot project is spearheaded by ECOSOFTT, a Singapore-based pioneer and innovator in decentralized water and wastewater management technologies. It is an innovation supported by three Singapore government agencies - JTC, SPRING Singapore and Public Utilities Board (PUB), Singapore's National Water Agency.

### **Blue Is The New Green**

The pilot system treats and recycles wastewater that is produced by the occupants of CleanTech One. The treated water can be reused within the building for non-potable applications such as toilet flushing and landscaping for multiple cycles. The treatment system blends in the greenery on the building's ground floor, creating a "Sewage Treatment Plant in a Garden" effect.

By using recycled water for non-potable uses, CleanTech One will be able to place lower demands on the PUB's potable piped water supplies, suggesting a future where buildings can become less reliant on water from the centralized municipal systems. Another benefit is that less sewage waste is discharged into the public sewage network, which reduces the burden on the municipal treatment system.

“This project is the first of its kind that will set the new benchmark of sustainable water management in buildings. After speaking with different companies, we found that Mitsubishi Electric possesses not just the automation and control technologies but also the innovation capacity to co-develop this solution,” says Mr Marcus Lim, Co-Founder & Managing Director of ECOSOFTT.

Blue Buildings are expected to rise in importance, as they sustainably reuse and manage water, to become less reliant on municipal sources. They can lower water consumption and wastage by 50 percent; about 80 percent of the wastewater that is produced by the building is recycled and reused, while the remaining 20 percent is discharged in an eco-friendly way to replenish water sources.

This is made possible with the help of equipment that is located onsite, dedicated to wastewater treatment and recycling. These in turn, are controlled and managed by Water SMART devices, which are enabled by Mitsubishi Electric’s automation and control technologies.

### **The Right Match**

“The choice of hardware is based on the process knowhow and the requirements and control philosophy provided by ECOSOFTT,” says Mr Lau Wee Pheng, Senior Business Development Manager at Mitsubishi Electric.

“The wastewater treatment system uses an FX3 Series Programmable Logic Controller (PLC) to handle the simpler process controls. For more complex processes, an L Series PLC is used; it allows different modules to be added and selected based on specific process requirements”, Mr Lau continues.

Using Industrial Internet of Things (IIoT) and Mitsubishi Electric’s SCADA MC Works64 automation and control software, the status of every piece of equipment can be monitored remotely and wirelessly from any location – via a PC or mobile device. If there is a problem with water quality, SCADA MC Works64 notifies the operator with an alarm. He may then instruct the system – via his software interface – to discharge the water directly into the sewage system.

SCADA MC Works64 also has a trending feature that allows the operator to monitor and analyze historical data trends, helping him to identify and study the causes of system problems when they arise. The 3D graphics for SCADA MC Works64 was designed by Mitsubishi Electric's System Integrator (SI) - I Control Solutions Pte Ltd.

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## Images

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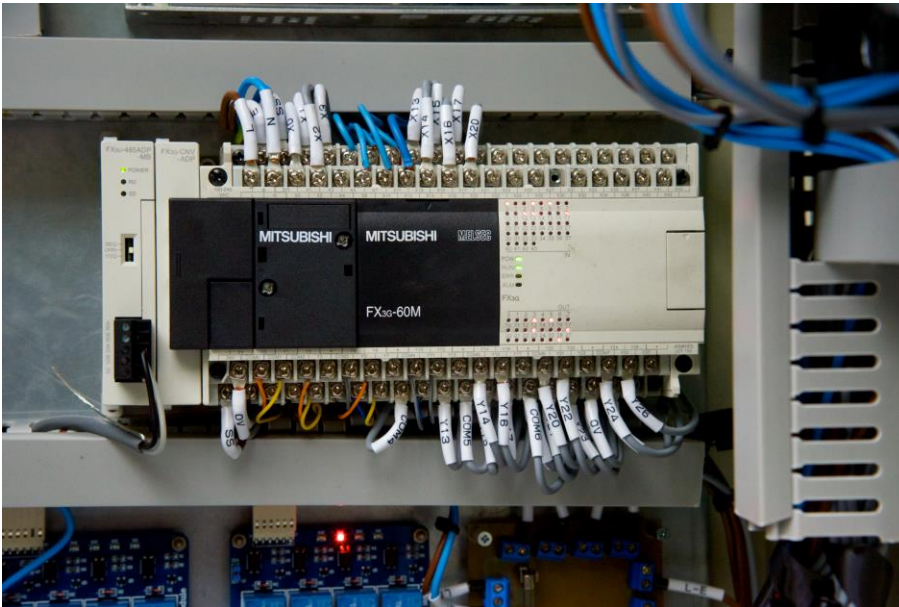
*Caption: Blending seamlessly with the greenery, Mitsubishi Electric's cutting-edge technologies ensure that the waste treatment system runs at full efficiency.*



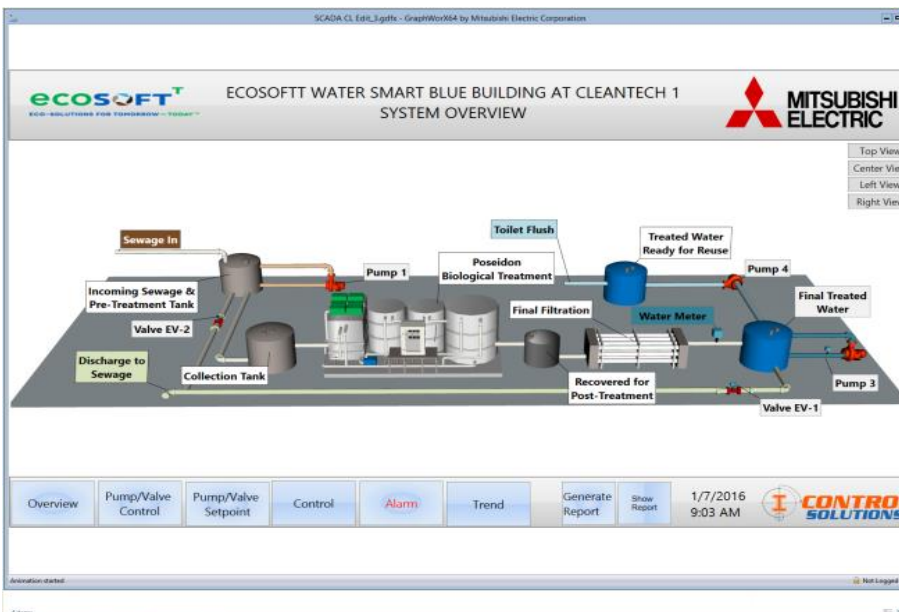
*Caption: The easy-to-read interface provided by the onsite Human Machine Interface GOT2000 series gives administrators a clear window into the system's operation.*



*Caption: Mitsubishi Electric's L Series PLC controls complex processes for the wastewater treatment system.*



Caption: Mitsubishi Electric's FX3 Series PLC is a compact 'all-in-one' workhorse that powers many different applications.



Caption: A 3D representation of the system, taken from the SCADA MC Works64 software. 3D graphics created by Mitsubishi Electric's SI, I Control Solutions Pte Ltd

### **About ECOSOFTT**

ECOSOFTT is a Singapore-based company, globally pioneering decentralized management of water, wastewater and environmental services. It provides a comprehensive range of solutions that enable homes and communities to become water secure, live in harmony with the environment and protect the world for future generations.

### **About Mitsubishi Electric Corporation**

With over 90 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,394.3 billion yen (US\$ 38.8 billion\*) in the fiscal year ended March 31, 2016. For more information visit: [www.MitsubishiElectric.com](http://www.MitsubishiElectric.com)

\*At an exchange rate of 113 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2016

### **About Mitsubishi Electric Factory Automation Business Group**

Offering a vast range of automation and processing technologies, including controllers, drive products, power distribution and control products, electrical discharge machines, electron beam machines, laser processing machines, computerized numerical controllers, and industrial robots, Mitsubishi Electric helps bring higher productivity – and quality – to the factory floor. In addition, our extensive service networks around the globe provide direct communication and comprehensive support to customers.

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