Press Release

Asteria and Remotec Release a Toolkit for IR*[1]-Enabled Office Air-Conditioning Units to Help Save Electricity

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Tokyo -- August 9, 2022 -- Asteria Corporation (Japan listed, Security Code: 3853) and Hong Kong-based remote control system developer Remotec Technology Ltd. announced today the release of "Smart IR Edge Control Toolkit", which allows users to convert Infrared (IR) -enabled office devices such as air conditioning units into smart devices. The toolkit combines Asteria's Gravio edge computing-based IoT platform, including sensors, and Remotec's IR remote control system.

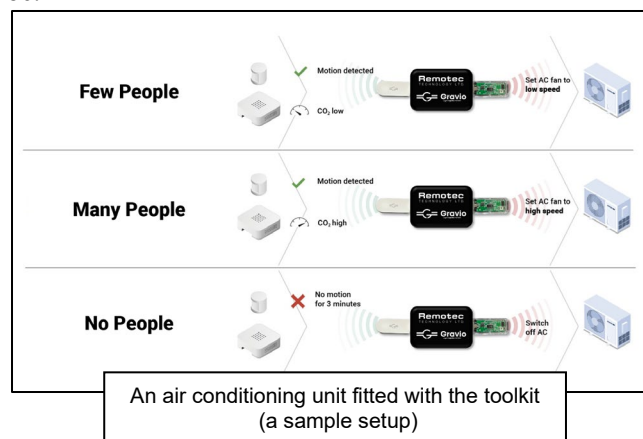The image of Smart IR Edge Control Toolkit

■ Background

The energy shortages and heatwaves are causing power crunch around the world. According to International Energy Agency on cooling*[2] updated in January 2022, the use of air conditioners and electric fans already accounts for nearly 16% of the total electricity in buildings around the world -- or 10% of all global electricity consumption. As an air conditioning unit is one of the biggest power consumers in offices and houses, the efficient use of the equipment holds one of the keys to saving energy and electricity.

Meanwhile, most electronic appliances such as air conditioning units are still operated via IR remote controllers, making it difficult to build a system that works with IoT devices, including sensors, to maximize their operational efficiency. Hence Asteria, which offers Gravio edge-computing based IoT platform, and Remotec, which has over 30 years of experience in the remote control industry, sought to provide a system that turns traditional IR-enabled office devices into smart ones with their technologies.

As a first step, the companies jointly developed the toolkit for air conditioning units. The air conditioning unit fitted with the toolkit works like this:

1. Based on data from Gravio IoT sensors such as temperature, humidity, CO_2 levels and the number of people in the room,
2. Gravio manages Remotec's remote control system. This realizes the optimal operation of air conditioning units,
3. thereby reducing wasted energy and contributing to electricity conservation and decarbonization during times of tight power supply.

An air conditioning unit fitted with the toolkit (a sample setup)

The toolkit can be installed within minutes even by non-engineers because Gravio does not require programming knowledge. Using Gravio saves large amounts of integration work. Due to its edge computing*[3] nature, data from sensors is processed locally, instead of in the cloud system. As this system works without any internet connection, it can be introduced in offices regardless of an internet environment.

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*1： An infrared (IR) code is an instruction signal (Power On/Off, Volume +/-, etc.) from a wired or wireless device similar to a remote control, to other electronic devices such as TVs, air conditioners, etc.

*2： https://www.iea.org/fuels-and-technologies/cooling

*3： Rather than connecting and transferring all data to the cloud system, the data from Gravio sensors will be processed locally at the edge of the network, where it is generated. This distributed approach makes systems faster, more resilient and keeps the data safer, because it does not necessarily need to connect to the Internet.

■Going Forward

The toolkit is designed for any enterprise customer mainly in Asia outside Japan, such as Hong Kong and Singapore. Asteria and Remotec plan to expand its applications into other office devices according to customer needs. The partnership between Asteria and Remotec will continue to explore the integration of their technologies to expand services that enable connection between various devices and to support automation and remote operations in a wide range of applications.

＜The overview of Smart IR Edge Control Toolkit＞

Product components*[1]	・Gravio sensors (10 kinds of sensors including a temperature and humidity sensor, CO_2 sensor, etc. are available for rent*[2]) ・Gravio USB Zigbee dongle ・Remotec USB IR device for remote control ・Edge computer	
Release date	August 9, 2022 (Offered on a first-come, first-serviced basis)	
Order form	https://link.gravio.com/IRToolkit	
Subscription plans	Gravio Basic, which includes 4 sensors of choice	5 USD / month
	Gravio Standard, which includes 20 sensors of choice	200 USD / month

*1 : A PC (Mac, Windows, or Linux) on which Gravio runs is required
*2 : A Gravio sensor lineup https://www.gravio.com/en/product#Gravio-Rent
Note: There are limits on the kind of sensors that can be rented out depending on the subscription plan.

■ Message from Remotec CEO

> The shared purpose with Gravio is to create a more seamless connected automation experience amongst all IoT devices. This objective drives our collaboration to further explore new technologies and develop more enhanced & optimized connected home, office and B2B solutions. We look forward to enhancing our product offerings to give a better consumer experience.
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> **Jayne Law, CEO of Remotec Technology Ltd.**

■About Remotec Technology Ltd.

Remotec Technology Ltd. is a software/firmware, IP, and data solutions partner with over 30 years of experience in the remote control industry. Originally known as Bondwell Computers in the 80s, it has transformed from solely an original equipment manufacturer of remote controls to a chipset agnostic company that provides value across the board in terms of its Infrared and Bluetooth code database, application and data services, API library solutions, and finished goods manufacturing expertise.

For more information about Remotec, visit https://remotec.com.hk/

■About Asteria Corporation

Asteria Corporation develops and sells software and services which connect a variety of in-house computers and devices. Its key product, ASTERIA Warp, is data integration middleware has used in nearly 10,000 companies*, mainly large and medium ones. Another product, Handbook, allows users to carry around materials used for sales activities and meetings as well as product catalogues in electronic files on smartphones and tablets. A total of 1,600+ companies* and public institutions had adopted the product. (*Numbers are as of the end of March 2022)

For more information about Asteria, visit https://www.asteria.com/jp/en/

■About AI-equipped IoT integrated edgeware Gravio

Gravio is an AI/IoT integrated edge computing platform that can easily link data from general-purpose cameras and various sensors with various systems without coding. With simple operations based on intuitive screen design, various data can be collected and managed at the edge, and actions based on the data can be automatically executed. We also offer a free loan program for various certified sensors, eliminating the complexity around installation. The entire service enables simple and quick utilization of AI/IoT. In the new version, the AI image inference function has been further enhanced, and in addition to the pre-installed inference models, original image inference models created by customers can be used seamlessly without coding. Gravio will help users achieve digital transformation utilizing AI and IoT in a wide variety of applications.

For more information about Gravio, visit https://www.gravio.com/en
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