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Innovation in IoT

Collaboration between Cascoda and

Green Ideas Technology

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The collaboration between Cascoda and Green Ideas Technology
National Taipei University Smart Lighting Project

Cascoda Ltd. is delighted to announce the collaboration with our customer in Taiwan – Green Ideas Technology Co. Ltd. – who are using Cascoda's Chili2S module for their 'Nema' light controller, and the Chili2S module plays an essential role in the wireless communication of that system. In order to realize true smart energy-saving management, Green Ideas Technology has launched a brand-new set of LED street lighting solutions – and has recently (April 2020) deployed these smart street lights at the National Taipei University.

Street lights play a very important role in illuminating the city at night, as well as being a fundamental component of urban infrastructure. Therefore, and not least because very large energy savings are realistic, the introduction of intelligent control for street lighting has become the first step in the construction of a smart city, and it is also one of the major urban constructions actively promoted by various countries.

Jessi Tsai, CEO of Green Ideas Technology, has pointed out that the concept of Internet of Things has been used in western countries for years; however, not many companies can truly integrate the infrastructure with smart services, through Internet of Things (IoT) technology. Green Ideas Technology has combined Wi-Fi mesh network technology and IEEE 802.15.4 wireless connection technology running on Chili2S modules to successfully develop a more reliable LED smart lighting system (GIT-NET), which serves as an intelligent IoT communication platform. The GIT-NET communication platform equips for collecting data from various sensors such as for flooding, air pollution, detection of toxic and flammable gases, microclimate detection (monitoring rainfall, wind, temperature, humidity and ultraviolet rays) as well as ambient illumination levels, thus leading to a wider and more convenient range of smart services. In addition, each LED street light can be individually targeted and flexibly controlled. The lighting levels can also be adjusted according to the traffic flow and weather conditions at different periods of time. This not only reduces the maintenance costs but also saves 70% of energy consumption compared to the traditional street light, leading to a truly smart city.

This tender won by Green Ideas Technology is to assist the National Taipei University to build a smart campus, with the project requiring the deployment of 200 LED smart street lights along the cycle lanes on the campus.

Cascoda's Chili2S wireless communication module has been designed into the NEMA controller of the smart lighting system. The Chili2S module features the Cascoda CA-8211 transceiver modem based on the SMARTRange™ design architecture, with a Nuvoton M2351 ARM® TrustZone® microcontroller. Although the furthest distance for a pair of communicating street lights is up to 200 meters, Cascoda's high-performance transceiver gives it good coverage and a robust wireless network. Daniel Liu, R&D manager of Green Ideas Technology, said, "We have tested many RF components. Compared to the others, Cascoda's products have the highest reliability and a very low packet loss rate is around 0.3-0.8% – and other performance aspects are also excellent. Cascoda's Chili2S module has played a very important role in our wireless communication system."

"Cascoda even set up a Taipei branch office in the beginning of this year, officially entering the Taiwan market. This local presence enables us to receive more immediate and better technical support from them," said CEO Jessi Tsai. "Cascoda is proactive. When we faced difficulties in development, Cascoda could always provide prompt technical support to help us solve the issues."

"We are delighted to collaborate with Green Ideas Technology for this project, as the collaboration enables Cascoda to better understand the local Taiwan market. We look forward to collaborating with other Taiwanese customers in the future," Cascoda CEO Bruno Johnson said. "We believe we can partner with Green Ideas Technology to achieve a truly smart city together, thus having a significant impact on bringing the Internet of Things to society."