

# Implement Low-Power Firmware for Precise and Smart Management in Zhudong Canal

◦ In order to enhance the efficiency of irrigation water management in Hsinchu, the Irrigation Agency (IA) combines water gauges with the low-power NB IoT transmission module to monitor the real-time water level of the Zhudong Canal in order to grasp the situation of irrigation water use. Meanwhile, with the remote control systems of water gates, the real-time opening and closing of water gates can be operated through the "Platform of IA for Remote Monitoring and Management of Water Gates", making the operation of irrigation management more labor-saving and convenient. In addition, installing NFC tag cards allows to fill out the information and transmit the inspection results of water gates through an inspection APP, enhancing the efficiency of gate management.

The exhibition model combines two sets of water level gauging equipment and one set of water gates and remote control equipment. The water gauge can measure the water levels of main canals and lateral canals respectively, and transmit the real-time data to the "Platform of IA for Remote Monitoring and Management of Water Gates" to provide inquiries. Irrigation administrators can remotely operate the opening and closing of the gates through cell phones or tablets, according to the demand of irrigation. Therefore, the adaptation flexibility of irrigation administrators can be improved, enhancing the efficiency of irrigation management.

竹東圳

竹東圳11支線水門

接水門  
開 5cm

竹東圳11支線水門排水門

上升  
開度  
下降  
停止

開度: 5cm

#1攝影機 #2攝影機

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水門開度: 4.8 cm  
竹東圳水位: 0.239 m  
竹東圳流量: 0.009 cms  
11支線水位: 0.018 m  
11支線流量: 0.017 cms

1:06 / 1:12

