

Smart city developments in the Sino-Singapore Tianjin Eco-city

The Sino-Singapore Tianjin Eco-city was among the first batch of pilot cities and districts in the PRC Ministry of Housing and Urban-Rural Development Smart City Pilot Programme launched in 2013.

2 Singapore and Chinese partners have worked together to enhance the Eco-city's smart city developments which are guided by the Smart City masterplan¹ and Smart Transport masterplan formulated by Singapore Cooperation Enterprise, that drew on Singapore's experiences.

3 The Eco-city is also deepening its development as a smart eco-city. It has a Smart Operations Centre, which serves as a "city brain" to integrate and analyse citywide data to deliver better government and municipal services. The Eco-city has been piloting smart solutions, such as autonomous public buses and smart carparks. It has also partnered JD.com, China's second largest e-Commerce company, to trial autonomous courier vehicles and an unmanned supermarket.

4 Tianjin Municipal Government has set a direction for the Eco-city to be a model for smart city development in Tianjin. The Eco-city is also the smart city showcase site for the annual World Intelligence Congress (WIC) held in Tianjin. At the 4th WIC on 24 June 2020 this year, a set of "Guidelines for the Construction of Smart Residential Areas" ("Guidelines") was launched at the China-Singapore Smart City Forum hosted by the Eco-city Administrative Committee (ECAC). The Guidelines are results of a collaboration involving the ECAC, Keppel Land China, Sino-Singapore Tianjin Eco-city Investment and Development Co., Ltd., Tianjin Eco-city Investment and Development Co., Ltd. and Tianjin Eco-city Green Building Research Institute Co., Ltd. The Guidelines provide guidance and evaluation standards for the construction of smart residential areas in the Eco-city. The Guidelines cover five areas: infrastructure development, Internet of Things, data services, security management and smart applications. They will be applicable to the smart development and operations of new, rebuilt and expanded residential communities within the Eco-city's jurisdiction.

5 Keppel Land China developed *Seasons Heights*, the Eco-city's first smart estate, which piloted the five areas under the Guidelines. The smart estate, completed and handed over to residents this year, features 30 smart technology applications offering more than 50 functions in the estate and in residents' homes, including fitness facilities, waste sorting stations, WiFi-enabled benches, smart speakers, as well as a running track that can provide data to support runners in achieving their fitness goals. To help reduce the spread of COVID-19, *Seasons Heights* also utilises a 5G contactless thermal scanner with facial recognition capabilities. It is located at the entrance of the estate, and avoids the use of security passes and physical contact when residents enter the compound. The scanner is able to detect residents with elevated body temperatures and alert the security and community management teams immediately. Building on the positive momentum of the Guidelines, Keppel Land,

¹ The former IDA-International started formulating the Eco-city's Smart City masterplan in 2015, and subsequently the Singapore Cooperation Enterprise took over.

through a wholly-owned subsidiary, signed a Memorandum of Understanding with the ECAC on the collaboration to enhance smart operations and municipal management services in the Eco-city, at the 9th Singapore-Tianjin Economic and Trade Council meeting on 1 December 2020. These smart initiatives to support sustainable urban development and management create a more liveable environment, and improve government and municipal services for people living, working or visiting the Eco-city.

6 To further cooperation on smart city development, Singapore and China have been working together to pilot City Information Modelling (CIM) in the Eco-city. CIM is a live digital model of the city to provide a foundation upon which smart applications can be layered. It is a tool to enhance data-driven and collaborative city planning, construction and management.

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