

Weifang Smart City lights the way ahead for China

Located in the center of the Shandong Peninsula, Weifang is famed as the birthplace of the kite over 2,400 years ago – legend has it that the philosopher Mozi created kites to send messages. Today, IoT technologies are being used to take the smart city concept to new heights.



By Zhang Baoqing
Director of the Weifang
Smart City Project

Spanning 16,000 square kilometers, Weifang is Shandong Province's second largest city. It has a population of more than 9 million and, in 2016, ranked 32nd in economic output among prefecture-level cities in China. In 2014, Weifang established a smart city department to improve urban management, promote digitalization, and build a new type of future-ready smart city.

No Cards, No ID, No Cash

Weifang released the Weifang V app as a service platform to put smart city services at residents' fingertips. It provides public resources, such as education, healthcare, transportation, tourism, and administrative approval, in one place.

Taking advantage of the growing popularity of mobile payments in the shape of WeChat and Alipay, Weifang took things to the next level with its online financial services platform Cloud Pay, which is available on V App. Residents can use it to pay for local healthcare, education, public utilities, government services, and other non-tax revenue services. Cloud Pay also lets partner banks provide quick loans for residents and financial services for local eCommerce retailers.

In August 2017, the Shandong Provincial Public Security Department officially completed acceptance of the Zhiji platform in Weifang. Using their mobile phones to access the platform, which is based

on the public security census information system, users complete a comprehensive verification process to receive an electronic ID in the form of a dynamic QR code. With the e-ID, residents no longer have to carry a physical ID card when they go out. This is a major innovation in online ID verification and a first for China. The Ministry of Public Security has already approved and initiated the project.

Using the Zhiji platform, Cloud Pay was upgraded into V Pass, a first-of-its-kind smart city pass for Weifang. The pass combines the user's ID, driver's license, health insurance card, bank cards, bus pass, bicycle card, access control cards, library cards, travel card, and other types of ID cards into a mobile app. Using just one app, residents can handle day-to-day affairs, travel around the city, and complete mobile payments for various public services, making life much more convenient.

After Shenzhen and Hangzhou, Weifang is the third city in China to enable mobile payments for medical cards and the first to implement e-ID cards. As a result, the city started a three-pronged campaign: No Cards, No ID, No Cash. V Pass currently has 600,000 active users, which is expected to top 1 million by the end of the year. With its broad range of usage scenarios, full digitalization, and convenient portability, V Pass can replace the physical city passes currently in use, which will inevitably have mass appeal.

Weifang's V App represents the starting

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point of smart city construction in Weifang. It bypasses PC-based Internet, instead capitalizing on the rise of mobile Internet. In the PC-based Internet era, multiple website applications were the defining feature of the smart city – much less convenient than a mobile app.

Weifang lights the way in China

In the pioneering spirit of the philosopher Mozi, Weifang became the first city in China in October 2016 to build an urban smart lighting control system using Huawei's NB-IoT technology. This occurred only four months after 3GPP recognized the Huawei-led NB-IoT standard as a next-generation IoT technical standard.

In November 2016, Weifang's municipal government and Huawei signed the Weifang City IoT Application and Industrial Base Construction Strategic Cooperation Agreement, which led to the inauguration of the Huawei-Weifang IoT Application Innovation R&D Center and the Huawei-Weifang IoT Industrial Alliance. With the alliance's support, Huawei will build an IoT industrial park and work with Weifang to create the country's first NB-IoT model city.

As of October 2017, Huawei had completed construction of an NB-IoT network covering the whole city. The construction strategy was one network, one platform, and multiple applications. Some 1,574 NB-IoT base stations were built across the city, providing 94 percent

network coverage.

At the same time, Huawei started to deploy a city-level IoT public service platform, the first of its kind. A total of 12 IoT city applications will be launched on the platform, including smart parking, smart eGovernment, the Internet of Vehicles, smart building, and smart lighting.

The Weifang municipal-level IoT public service platform integrates industrial IoT applications, solving the issue of fragmentation that has emerged with city IoT applications. It collects fresh, high-value big data on a city-wide level and with the support of the platform, reduces development costs for applications.

The platform allows for the unified management of IoT data through integrated device connection and IoT data integration. This enables the IoT application system to provide cross-departmental and cross-application data sharing, and unified data rendering for decision-making support on the integrated management platform.

IoT Weifang

Once construction of the Huawei-Weifang IoT Innovation R&D Center is completed, it will contain an IoT OpenLab that will carry out verification and testing on products and solutions for the IoT Weifang project. Additionally, an IoT exhibition hall will showcase applications built by Huawei and partners.

At the R&D center, we will broaden

cooperation with universities and research institutes, both Chinese and international. The center will also help local businesses enhance their IoT capabilities and business development, and compete for national and provincial-level research projects that push IoT Weifang standards to become national standards.

Construction on the Weifang IoT Industrial Park is set to begin. With the support of Huawei's intangible assets, such as brand profile and leading cloud services, we're seeking to create an entrepreneurial environment in combination with the IoT Weifang construction project, and attract both manufacturing and research businesses to the park.


The Huawei-Weifang Smart City IoT Industry Alliance has brought together 52 domestic and international IoT partners from domains such as city transport, city lighting, city management and services, environmental and ecological protection, agriculture, manufacturing, and warehousing and logistics.

Weifang's Changle County has been designated as the pilot county for IoT Weifang. Here, 39 departments and 17 enterprises and institutions are collaborating on the research of NB-IoT smart city applications

based on the IoT Weifang public services platform. The work is completed in accordance with the development strategy for the whole city. They're also implementing 18 IoT applications, including eGovernment and smart solutions for parking, street lighting, and pipelines.

The PC-based Internet provided information symmetry; mobile-Internet provided efficient connectivity; and now, IoT will deliver a fully connected world. It is what will make a smart city truly smart. Specifically, the thinking behind it is that constructing a smart city with IoT that connects everything will create a nervous system for the city that's controlled by a management center that serves as its brain.

Notably, during the IoT Weifang project's start-up process, TelChina became a close partner in the project through a strategic partnership with Huawei. With exceptional insight, Shandong Provincial Department of Water Resources helped build a province-wide smart river chief management system using the Weifang IoT platform.

For Weifang, IoT is truly defining a new age of smart cities. 

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