

# The Race is on — NB-IoT Boosts Smart Bike Sharing for ofo



**O**fo partnered with China Telecom and Huawei to develop and deploy NB-IoT and smart IoT locks on ofo's bikes — a world first both in term of product and the application of NB-IoT in a commercial mobile scenario.

Whether it's shared spaces, books or bikes, the sharing economy is built upon the concept of "use it when you need it." The Chinese government describes the sharing economy as an excellent example of supply side reform that drives wider economic restructuring. With this official seal of approval and strong popular interest, any sharing platform can succeed if it knows the market and has the right amount of technical integration and support.

## Pain Points behind the Figures

As the market expands and industry models continue to develop, the sharing economy has begun to truly mature. By June 2017, for example, more than 100 million people had used China's shared bicycles. The nation's Belt and Road Initiative has further helped the shared bike phenomenon spread through Southeast Asia, Central Asia, and even Europe and the US.

But, the popularization of sharing services has led to rising expectations and users are no longer satisfied with the basic sharing service. They want a bike exactly when and where they need one. And they want to pedal away quickly. As well as frustration at how easily the bikes can be damaged, complaints about slow unlocking and payments are on the rise.

A second issue is unsustainable business models, as companies that go for maximum user numbers soon lose their competitiveness. However, market segmentation based on analytics can focus on and retain high-value users. For the shared bike scenario, two approaches can revitalize a jaded business model:

- Implement smart management.

- Seek partners for new innovations.

## Tech Drivers for ofo

ofo has consistently optimized its operations and marketing to become the world's largest shared bicycle platform with the highest market share. But a range of challenges still remain, including inefficient equipment management, failure to balance communications and power dissipation, and low density of data collection sites.

In response, ofo explored new possibilities of smart management, and decided to work with a number of ecosystem partners to move the sharing economy one step closer to the intelligent era.

## Two Improvement Approaches

- **One: innovative technologies.** The company's top priority was to introduce and popularize smart locks to improve user experience and enable all kinds of value-added services. In the past, although a variety of electronic smart lock technologies had certain strengths, they invariably had at least one glaring defect, for example, network compatibility, battery life, communication costs, or use.

Based on NB-IoT technology, ofo developed an IoT smart lock that lowers power consumption, enables wide coverage and heavy connections, and slashes system resource delays at low cost. Having led the shared bike sector into the NB-IoT era, ofo is already reaping the rewards of an improved user experience, especially for commuters who use the bikes to ride from subway

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stations to work.

NB-IoT lets ofo ensure it has bikes located at peak locations when commuter demand is highest, while the new lock can be unlocked in less than a second. Both improvements have greatly boosted user satisfaction.

- **Two: partners.** Three key pillars support ofo's tech upgrades: the company's own platform, the commercial network provided by China Telecom, and Huawei's intelligent chip-based NB-IoT solution. When launching its NB-IoT solution earlier this year, ofo founder and CEO Dai Wei commented that the cooperation between ofo, Huawei and China Telecom is a "mutually beneficial joint force of three global leading enterprises."

At the core is Huawei's IoT solution, which includes smart chips, networking, and an IoT platform. The solution provides strong coverage in poor-signal areas and a network capacity that's more than one hundred times stronger than standard terminals. The payment process has dropped from 25 seconds to less than 5, while battery life has been lengthened from 1 or 2 months to more than 2 years, saving costs and reducing the need for frequent maintenance.

While Huawei and China Telecom provide the necessary tech support, this is only the beginning of smart management.

### Making Sharing Smart

Key technology platforms for the sharing economy in the mobile area exist in the areas of perception, networking, and application. Perception is the ability of shared equipment to obtain data through sensors. Networking lets equipment process and analyze data. And application is the ability to deliver smart management.

Ofo's cooperation with Huawei on NB-IoT smart locks bodes well for improving the industry as whole. Huawei's technology optimizes lifecycle management for locks, while the sensors on the locks collect information such as equipment status, user data, and operating data.

They connect the front- and back-end industrial chains to achieve intelligent business management, allow the bikes to be located in hot spots, facilitate rapid maintenance, and boost marketing and VAS capabilities.

This kind of mutually beneficial partnership is emerging as the best guarantee for innovation and progress in not just the sharing economy, but in all industries. In this context, Huawei's Deputy Director of Telecoms Systems Zhang Xiuzheng reported Huawei's plans to collaborate with various partners "in the fields of chips, IoT platforms, big data, and application ecosystems" so as to help industry as a whole become smart.

With the right partnerships and technologies underpinning new business models, the smart sharing economy is destined to improve life for all and, in ofo's case, contribute to a greener and cleaner world.

### Milestones of ofo

Launched in June 2015 and headquartered in Beijing, ofo (www.ofo.so) leads the market with downloads, users, user growth, bicycles, daily orders, average daily bike usage, and other indexes. As the creator and leader of the shared-bicycle industry, ofo's trademark yellow bikes represent the world's largest and most valuable bike-sharing platform. ofo connects more than 6.5 million bicycles worldwide, and has provided over 2 billion rides to more than 100 million subscribers in over 150 cities. With footprints in the US, Britain, Singapore, Kazakhstan, and Thailand, it's also China's first global online company.

- September 2016: received investment from Weilie Capital, Dongfang Hongdao, Jinshajiang Ventures, Zhenge Fund, angel investor Wang Gang, and Jingwei China.
- April 2017: received strategic investment from Ant Financial, with partnerships covering payments, credit, and global operations.
- July 2017: announced a USD 700 million new round of financing, the highest single-transaction finance record in the industry and also the highest total amount of financing. ▲