Actility

Success Story

- Smart City -

BEITMISK

BEITMISK KEY FIGURES

655,000 meters² area of BeitMisk

6-900 meters altitude of village

1,800 units of apartments, villas and townhouses

BeitMisk, Lebanon Paves the Way to Smart Cities in the Middle-East

As a new IoT network to connect the country, residential community BeitMisk gets digitized

Introducing Lebanon's New IoT Network

Lebanon's Ministry of Telecommunications and Ogero Telecom have been busy rolling out a nationwide IoT network, a project they aim to complete by the end of 2017.

The country recognizes the potential benefits of IoT to industry, agriculture, healthcare, urban planning, exportation, etc. Increased efficiency, competitiveness and resource management will all result from the precision and data provided by M2M connectivity and, more specifically, LoRaWAN technology. Meanwhile, partners are already beginning to implement solutions within a variety of sectors and end-customers are seeing the results. Several partners have converged at BeitMisk to create Lebanon's first Smart City.

The village BeitMisk is a 655,000 square-meter residential community, set several hundred meters high in the Metn hilltops above Beirut. Selected as a partner in transforming the village into the first Smart City in the Middle East, Data Consult has provided innovative solutions in security, Internet of Things, data centers, network & system infrastructure and management, etc., for over 25 years.

> **"Turning a city smart is a journey"**
> *Marc Nader, Chief Operating Officer, Data Consult*

Increasing citizen awarenes

Of the most striking results of the project were the speed and ease in which the city was digitized. The sensors seamlessly connect with non-born-digital elements, such as plugging LoRaWAN pulse sensors into water and gas meters or installing solar-powered air quality sensors on the sides of buildings. Converting measurements into digital data was nearly instantaneous and non-intrusive. The entire process was operational within a couple months.

"The innovation phase is dramatically accelerated," Nader explains, "because developers just hook on to the Actility LoRa server and securely receive the data. We love the fact that security and sensor management is so well taken care of that we can focus our attention on the product we are creating."

Furthermore, by leveraging artificial intelligence to analyze the massive flow of data resulting from the city's digitalization, officials can focus on better managing scarce resources, saving energy and improving citizens' consumption habits.

But it's not just project managers and City Hall noticing the changes around town. Equipped with high speed internet, enhanced security systems, and interactive applications through which to monitor and access everyday data, citizens also take part in the project and increase their own awareness of their environmental impact. Therefore, empowered by this new information, the entire village can work together to improve BeitMisk's quality of life.

BeitMisk

The digital infrastructure

"Turning a city smart is a journey," says Marc Nader of Data Consult, charged with overseeing BeitMisk's transformation.

The first step of the journey was to deploy sensors for collecting data on a variety of sources including gas, water and electric apartment meters, oil and water reservoirs, atmospheric gases, sewage treatment systems, legacy security systems, fire alarms, etc. Due to the wide, hilltop location of the village, LoRaWAN sensors were chosen for their long-range and low-powered wireless capabilities.

To gather the data, Data Consult implemented Actility's ThingPark platform, chosen for its reliability in managing data from the diverse set of LoRaWAN sensors. They then stored the data on their own Data Orchestration Platform, built inside the Google Cloud.

> **"We are only scratching the surface in providing a better citizen experience in Lebanon"**
>
> *Marc Nader, Chief Operating Officer, Data Consult*

A Smart City app, created to connect city operators and citizens to the platform, displays a responsive dashboard with analytics and visual data. A Facebook Messenger chatbot was also developed for tenants to easily access information and interact with their surroundings.

Transmitted data is encrypted from sensor to platform, secured within the Google Cloud by SSL secure sockets and single sign-on authentication, while the Facebook Messenger app and browsers used by the end-customers are HTTPS-secured.