

CASE STUDY



Hennessy Park Hotel



INDOOR

How K-BOW will provide mobile network coverage for a Cybercity on the island of Mauritius

KATHREIN

KATHREIN

Who we are and what we stand for

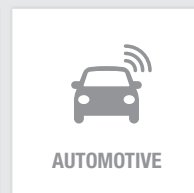
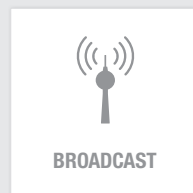
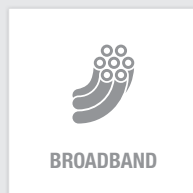
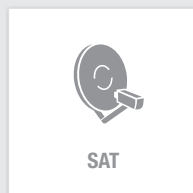
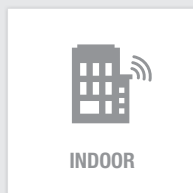
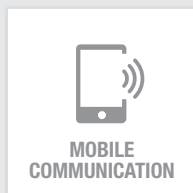
Kathrein is a leading international specialist for reliable, high-quality communication technologies.

We are an innovation and technology leader in today's connected world. Our ability to provide solutions and systems enables people all over the world to communicate, access information and use media, whether at home, at the office or on the road. We cover a broad spectrum:

from outdoor and indoor mobile communication solutions, to satellite reception, broadband and broadcast technology, to transmission and reception systems in vehicles.

As a hidden champion and family-owned enterprise, we have been working on the technologies of tomorrow since 1919. We take pride in our dedicated employees and our passion for customers and quality.

Our Solutions



Find out more about us at www.kathrein.com



Kathrein's innovative K-BOW system at the Hennessy Park Hotel, Mauritius

The Hennessy Park Hotel, Conference room

Mobile data traffic is exploding: more mobile users, more mobile connections and higher speeds are confronting network operators with enormous challenges. Throughput rates and capacities are having to be constantly increased. This is especially true of indoor areas: after all, some 80 per cent of mobile data traffic is now generated in buildings.

Kathrein's Micro C-RAN system K-BOW supports network operators in ensuring that indoor data traffic is fit for the future. This innovative solution is flexible in that it is able to provide capacity where it is actually needed. In addition to offices and business premises, this also applies to public areas and hotels. A hotel complex in a technology park on the island of Mauritius has now been fitted with K-BOW so as to optimise mobile network coverage.

In this way, the provider Emtel has taken the first step in its project to provide indoor coverage for the entire Cybercity Ebene.



Optimum mobile reception at the Hennessy Park Hotel

Efficient solutions offering high capacities are required to meet mobile data needs of the future. The network standard LTE enables these high data throughput rates and is being installed at more and more mobile phone masts worldwide, but indoor coverage faces increasing obstacles. Special windows with a metal coating are used to reflect sunlight in energy-efficient architecture, for example. It is difficult if not impossible for mobile signals to penetrate these, however. Smartphones have increasingly poor reception antennas, so coverage is often inadequate.

A reliable mobile phone signal and high data throughput rates are among the most important criteria for hotels in their efforts to ensure customer satisfaction. If reception is poor, this can be cause of considerable frustration and annoyance among guests, particularly at business hotels. By the same token, a very high-quality signal with high data throughput rates can impact positively on guests' overall impression. The Hennessy Park Hotel is the first building complex in the world to be fitted with K-BOW. Mobile network coverage is provided in the conference rooms, bars and restaurants on the ground floor and in the spa and fitness centre, assembly hall and offices on the first floor of the hotel, and all guest rooms.

"The fact that K-BOW is easily scalable, modular and with capacity which can be added on demand was decisive"

Paul Valette

"We were impressed by the package as a whole"

The network operator Emtel was responsible for the Hennessy Park Hotel being fitted with K-BOW. The company is also based in the Cybercity and has collaborated with Kathrein for a number of years. This solution was presented at a joint technology workshop. "We were impressed by the overall K-BOW package," says Paul Valette, CTO of Emtel: once the potential was seen, the decision was made to implement the first phase of the project at the hotel in the technology park. "The key benefits of the system are its flexibility and modular structure: with this we can guarantee our customers excellent coverage. It was important for us to save on energy and costs, too."

K-BOW aggregates the data traffic with a central RAN platform and then retransmits random combinations of the data traffic signals to individual remote units. The solution is remote controlled via a network monitoring centre, so capacity can easily be increased or decreased in a specific area of the building. Selected

bands and carrier frequencies can be activated and deactivated for each small cell sector. For example at night time several bands can be deactivated and only one band for basic coverage remains online. This function enables mobile network operators to activate a 2100 MHz basic signal overnight so as to ensure basic coverage inside a building and deactivate the remaining repeaters for the small cells. This functionality allows energy savings of up to 50 per cent. The system is also compatible with the most common indoor frequency bands and

all mobile communication standards, as well as supporting the very latest mobile network generations such as LTE Advanced.



Best data rates with LTE over K-BOW



The Hennessy Park Hotel

Discreet design as a bonus

Located near the island's capital of Port Louis, the project was completed within a very short time: just 45 days passed from the start of planning to initial operation of the system. One particular challenge was to install K-BOW while the hotel was still operating on a regular basis. Among other things, some 400 metres of cable had to be run and nine remote units installed. The aim was to ensure that the work did not inconvenience guests. "We were very impressed with the swift and smooth handling of the installation work," says Shameem Mowla, IT Manager of the Hennessy Park Hotel. He says he is very glad to be able to offer guests the best possible mobile network coverage. Mowla sees another bonus of K-BOW in its discreet design, which received the iF Design Award and the German Design Award. "The aesthetic dimension is very important in a hotel. The modern, elegant design of the system matches our premises very well," says the manager.

For Emtel, installation of K-BOW at the Hennessy Park Hotel is just the first stage of a much larger project. The network operator plans to implement the system throughout the entire technology park so as to provide the Cybercity with the best possible mobile network coverage. One specific technical aspect of the solution is of particular benefit to the company: the central hub of the Kathrein system connected to the base station is located at Emtel's company headquarters. The distribution stations in the various buildings can be linked to this via fibre optic cable.

> The Facts

Challenge

Guests at the Hennessy Park Hotel were to enjoy reliable network coverage with high data throughput rates during their stay. Macrocells were not sufficient for this purpose. The network operator Emtel, which has its head office near the hotel, planned to install a high-performance and reliable indoor mobile communications system. In future the aim is to install this system throughout the entire Cybercity.

Solution

Emtel joined forces with its longstanding partner Kathrein and decided to install the innovative K-BOW solution in the hotel. Within a few weeks, the system was installed for the frequency bands GSM 1800, UMTS 2100 and LTE 1800 MIMO. The time from the start of planning to initial operation was just six weeks.

Benefits

The solution provides data transfer capacity which is adaptable to needs. Since it is modular in structure, the system can be expanded without great effort or expense. Automatic calibration means that there is no need for installation teams to implement costly system settings. Nor is on-site access required for the addition of new carrier frequencies. All interventions are carried out via the network monitoring centre.



Interview with Paul Valette and Shameem Mowla

How did you come to the conclusion that K-BOW would be the right solution for your Cybercity plans?

Paul Valette: Emtel has collaborated with Kathrein since 2006 and our experience of their antenna systems has been very positive. The K-BOW system was presented to us at a joint technology workshop. We were impressed by the package as a whole - it seemed to be the perfect solution for optimising mobile network coverage in the Cybercity. There are more than 60 large building complexes in this modern technology park that we would like to equip with K-BOW so the Hennessy Park Hotel is just the beginning.

What are the features of the system you were most impressed by?

Paul Valette: One key factor was the fact that we can control the network infrastructure centrally from our head office via fibre optic connections. This significantly reduces expense and effort for us. Another important point was that K-BOW is modular in structure, so capacity can be expanded if needed. This means we can guarantee our customers excellent coverage in the future, too. The system is also capable of saving energy - another advantage.

Is it possible to give some idea of how many Cybercity buildings will be fitted with K-BOW in the long term?

Paul Valette: In the initial project phase we are looking at something like 20 companies. All in all there are a total of approximately 60 company buildings in the Cybercity where the system could be installed.

Technical background

The digital transmission cable supports distances of up to 20 kilometres from the central hub (C-hub) to the extension hub (E-hub), where the signals are allocated to sectors that can be modified via remote maintenance. That is also where remote units (RUs) are connected by coaxial cables or optical fibre. Each RU is equipped with several band-selective transceivers and LTE MIMO transceivers. In addition, the RUs also provide transparent IP connectivity with data throughput of up to 700 Mbit/s, which can be used for WiFi Infrastructure, Surveillance and Security Infrastructure.



Shameem Mowla
IT Manager at the Hennessy
Park Hotel



Paul Valette
CTO of Emtel



Cybercity, Mauritius

How important is mobile network coverage for the Hennessy Park Hotel?

Shameem Mowla: The Hennessy Park Hotel is primarily a business hotel, which means that we have a lot of business guests and business conferences all year long. Furthermore we need a reliable network for the communication among our staff. As a result, indoor coverage matters greatly to us. We are very satisfied with the K-BOW system as we have excellent connectivity in the whole building and can easily meet the requirements of our guests.

How did the installation of the system go from your point of view?

Shameem Mowla: The initial situation was not easy. We had a tight time schedule and the hotel was nearly booked out. Because of the noise, we had to start with the installation works before the restaurant opened and could not continue until it closed. The work was carried out perfectly without any disruption for our daily business. So, the team did a great job.



> About Emtel

Emtel Ltd. is a telecommunications company based in Ebene City, Mauritius. The company is an international joint venture between Currimjee Jeewanjee & Co. Ltd. and Millicom International Cellular SA, an operator of mobile telephony and other telephone services and systems, based in Luxembourg. Emtel launched its mobile telephone operations in Mauritius in May 1989, establishing itself as the first mobile telephone operator in the Southern Hemisphere. In 1999, Emtel launched its GSM service offerings, three years after its competitor mainly because of exclusive rights allocated to Cellplus Ltd to operate GSM technology in Mauritius.

As such, Emtel experienced a significant decline in market share at the end of the 1990s. The company now supplies a range of telecommunication services. In November 2004, Emtel became the first company in Africa to launch 3G/UMTS services. On May 2012, following its 23rd anniversary, Emtel launched 4G/LTE and became the first fully operational LTE provider in Mauritius. The company now operates GSM, GPRS, 3G/UMTS as well as 3.5G/HSDPA, 4G/LTE and WIMAX networks.

> About Hennessy Park Hotel

Conveniently located in the heart of the new Hi-Tech Business Park of Ebene Cybercity, between the capital city Port Louis and the international airport, the Hennessy Park Hotel is a modern, vibrant and innovative 4-star business hotel. The Hotel offers business travellers a fast and efficient place to do business while the ambience has a real artistic twist. A complimentary daily shuttle service runs between the Hennessy and the Waterfront Hotels in Port Louis. Hennessy Park Hotel is a member of the Indigo Group.

KATHREIN-Werke KG
Anton-Kathrein-Straße 1-3
83022 Rosenheim, Germany
Phone +49 8031 184-0
www.kathrein.com | k-bow@kathrein.de

KATHREIN