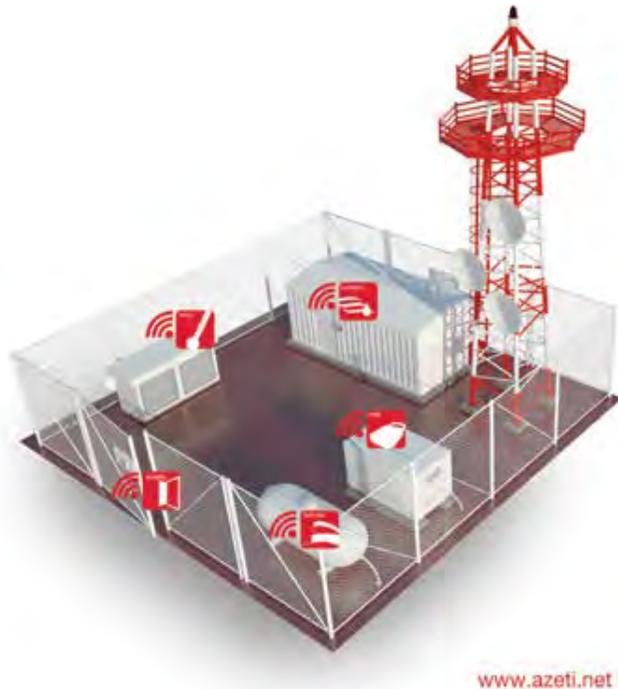


Wireless sensors as a deployment accelerator



Reduce installation costs, enable remote configuration and eliminate cable theft using azeti's SONARPLEX technology



Operating a telecom network is a challenging task. Due to the great number of mobile towers that contain a wide variety of onsite equipment, the risk that a single component fails or is removed is always a threat. This could lead to the complete shutdown of one or more cell sites or even a complete network failure. The resulting costs associated with SLAs and downtime, repairing damaged equipment, replacing stolen equipment, and the workforce management of field engineers means there is a significant financial risk for operators.

Keywords: Who's Who, Monitoring & Management, Installation, Opex Reduction, Batteries, Business Case, SLA, Uptime, Site Visits, NOC, RMS, NexSysOne, azeti

Read this article to learn:

- The business case for RMS
- How wireless sensors facilitate easier installation while eliminating cable theft
- The low maintenance requirements of azeti's sensors
- The importance of selecting RMS solutions that are sensor agnostic

In order to reduce risk, companies that operate cell sites equip them with Remote Management Systems (RMS) for monitoring and management of all mobile towers directly from a Network Operations Center (NOC).

Using sensors connected to onsite equipment like the HVAC (for example controlling temperature and humidity), generator sets, fuel tanks or the intruder detection system, the NOC obtains mission-critical information on the condition of certain onsite components. This helps to adjust maintenance intervals to an efficient level by reducing unnecessary truck rolls. In case of malfunction, field engineers can be sent to the site concerned immediately in order to prevent complete shutdown or restore functionality quickly.

Deployment - cabling

The installation of sensors combined with an RMS requires knowledge, time and, in the case of wired sensors, cabling! These factors can increase the rollout costs tremendously as cabling is a time and resource intensive process. If this critical part of an RMS rollout is not done well, then additional costs and time delays can be expected.

The deployment of wireless sensors addresses the aforementioned challenges within the rollout process. By installing wireless sensors that are based on the ZigBee protocol, the rollout time at each site can be cut significantly. In addition, the wireless feature enhances the flexibility of placing a sensor, enabling the optimisation of sensor readings. Even if it was placed at the wrong

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location, it is easy to replace the sensor again while not losing time for recabling. This has the potential for significant savings during the rollout process, especially in large deployments with a couple of thousand sites.

Deployment - configuration

The configuration of wireless ZigBee sensors is also a fast and easy task. Once connected with the azeti NG M2M Multipurpose Gateway, the sensor is detected automatically with no further need of an adjustment by the field technician at the site. Everything else regarding the setup can be done

remotely from the NOC. This easy installation makes additional help of a consultant or further training for field technicians unnecessary, contributing to a lean cost structure of the rollout process.

Cable theft

A major issue is cable theft. Since many of the cables are made from copper, there is a clear incentive to steal and sell the wires, since the prices of raw materials rise steadily. Especially in remote areas, it is difficult to protect onsite equipment including the cables. Thieves are aware of the low risk being caught by the police or any security company. If are cables removed, wired sensors fail to work, which could lead to damage the site. The wireless connectivity feature lowers the risk based on the fact that without cables, which can be sold easily on local markets, there is no incentive for cable theft.

Maintenance

Apart from the equipment to be monitored at the cell site, sensors need occasional maintenance. With azeti's SONARPLEX technology, the battery life of the wireless sensors can be displayed with the ability to notify the maintenance staff if a battery has to be changed, which demands only a screwdriver and takes two minutes. The notification allows for an efficient planning of maintenance tasks, so that field engineers can take care of the sensors while they are at the site anyway.

azeti's mobile application can facilitate the work

of those engineers by helping them on the spot to detect the sensors, which need maintenance.

Sensor agnostic

The azeti NG M2M Multipurpose Gateway supports common industry standard protocols for sensor communication including ZigBee. Operators of cell sites have the full flexibility to choose and deploy any sensors that meets their requirements. In addition, to switch from one sensor vendor to another is a simple process and provides the possibility to deploy the latest generation sensors.

Conclusion

Wireless sensors (ZigBee) improve an RMS roll-out by eliminating the cabling requirement as well as making the configuration process as simple as possible. This leads to a faster deployment and reduced installation costs. Relocating sensors is easy and increases the flexibility of site setup tremendously, whilst the risk of cable theft (and associated downtime) is completely removed.

azeti's SONARPLEX technology for remote monitoring and management of distributed cell sites provides the advantages of wireless sensor connectivity while preserving its capabilities of connecting to wired sensors and legacy hardware. The obtained information of every sensor at the site can be processed locally by SONARPLEX running on the azeti NG M2M Multipurpose Gateway. This enables to forward only useful information to the NOC, where the data of the entire network is consolidated using the NeXsysOne SiteOne NOC software ■

NeXsysOne

SiteOne

Site Management - Made Intelligent

azeti Networks enhances the features of SiteOne by enabling the support of wireless sensors. This facilitates the roll-out process by saving time to install sensors while also making cables unnecessary.

Remote Site Management.

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