MARCANT

Siemens measures lightning and MarcanT transmits lighting fast

Abstract

The Siemens operated service BLIDS measure lightning strikes in Europe using antennas, which are position in ten European Countries. To use the data to full extend, it was important to set up an information system, that connects the antennas which were sometimes located areas with the headquarter. The Bielefeld company MarcanT helped Siemens to achieve this goal.

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Introduction

Siemens operates a lightning information service for Europe (BLIDS: "Blitz-Informationsdienst von Siemens" [Siemens Lightning Information Service]) with 40 stationary measuring stations across Europe and antennas distributed in Germany, Poland, Switzerland, Great Britain, the Benelux countries, the Czech Republic, Slovakia and Hungary. However, making this possible proved to be challenging to the requirements for an accurate measurement.

This showcase describes the solution found by a company from the German city of Bielefeld.

Challenges

The BLIDS makes it possible to precisely locate lightning strikes within a radius of 200 meters. Meteorologists require information about lightning to draw conclusions about the development of clouds and weather fronts. The data is collected, analysed and processed at the headquarters so that storm warnings can be relayed to the population.

> ***Exact measurements require the measuring stations of the BLIDS system to be positioned at locations without disturbing influences but also without any fixed network infrastructure.***

In addition to the use for meteorological purposes, the data is also very valuable for companies of various economic sectors. Energy suppliers can more easily locate the sources of interference to overhead lines or high voltage lines. The industry can optimally adjust the lightning protection of their systems. Even athletes benefit from BLIDS, be it golfers on the green or parachutists in the mountains. Detailed information about lightning and storms can save lives.

Siemens' wish was to network all measuring antennas with the headquarters. To fully harness the potential of the information system it is essential, that data gets transmitted as fast as possible.

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The antennas are situated in remote areas, so that they are not affected by external interferences, such as the ones caused by large buildings. This way the data can be measured particularly accurate and the following conclusions are a lot more precise. However, because of these challenging locations Siemens has to deal with the problem of connecting the antennas without sufficient wired internet infrastructure.

How will solve the problem?

To find a Solution for the problem described above, Siemens consulted MarcanT, which is an internationally active Internet system house and M2M solution provider based in Bielefeld, Germany. The company has expertise in a wide range of topics from application development to network security. One of the company's specialties is ensuring maximum availability of software and hardware solutions. It was precisely this specialization that drew Siemens' attention to the company.

Siemens’ challenging wish was where MarcanT M2M technology is used. Since it was ans still is technically not possible to directly query the stations in the mobile network over the Internet, MarcanT offered its IP-Mobile product. Using IP mobile and a SIM card, Siemens was able to access the data from measuring antennas via a mobile router, which is assigned a fixed IP address, via the Internet.

In Addition to that, the measuring stations can now also be managed with the MarcanT-Communication Control Portal (M-CCP), developed and interconnected by MarcanT. In this case, the MarcanT computer centre is connected to the BLIDS measuring centre via a secure network, so that the data can be transmitted to the MarcanT system via mobile communications. The MarcanT-Communication Control Portal M-CCP also monitors the costs incurred here and helps maintain a constant overview with a variety of managed measuring stations.

In the end Siemens did not only get what they asked for, a way to quickly access the data, but also a the opportunity to further improve the cost structures of their service. BLIDS currently has no rival product and with the advantage gained through MarcanT it will be even more difficult for competitors to catch up.

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References

- Reference 1 www.marcant.net

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