

CASE STUDY

nowcast

“TO REDUCE THE COSTS ASSOCIATED WITH LIGHTNING CLAIMS AS FAST AS LIGHTNING, A CLAIMS PROCESSOR NEEDS TO VERIFY THE LOCATION, DATE AND TIME OF LIGHTNING STRIKE INCIDENTS SUBMITTED BY THEIR CUSTOMERS.”

Professor Dr. Hans-Dieter Betz, Scientific Director, nowcast

CLAIMS SETTLEMENT AS
FAST AS LIGHTNING



Challenge

The company nowcast measures lightning strikes throughout Europe and makes the data available to insurance companies. To enable reliable and exact settlements, accurate Geocoding—which is the linking of lightning strike data with the location of claimed damage—is indispensable.

Solution

nowcast relies on MapMarker® from Pitney Bowes Business Insight; a division of Pitney Bowes Inc. MapMarker is a very efficient, extensively scaleable tool, which transfers the geocoded addresses of the entire Federal Republic of Germany to a company's application server. The application is 100 percent Java-based and is platform independent. The business data is linked to the geocoded addresses via standardised APIs.

SUMMARY

nowcast operates a Europe-wide network of lightning measuring stations they call “LINET.” It records lightning strikes in the microsecond range and distinguishes between ground and cloud lightning. The latter is possible because of a sophisticated hyperbolic calculation process with the aid of the travel time it takes for the flash signal to reach several different measuring stations.

LINET originated in the year 2004 as a research project at the Ludwig-Maximilians-University of Munich. The system components and the necessary software concepts were developed within the work group “Applied Sferics Research” under the direction of Professor Dr. Hans-Dieter Betz, who is Scientific Director at nowcast. Soon after, the production of a sensor prototype was developed and test networks were set up in Germany, South America, Australia and Central Africa. Productive test operation was started under real-time conditions. After successful testing, continuous operation of LINET Europe began in 2006 and the product was taken over by nowcast.

Playing it safe

In addition to weather service agencies and energy suppliers, insurance carriers also realise the benefits of nowcast's solution in claim settlements. “In order to minimise the cost for the insurance,

the responsible insurance department must be able to check whether lightning actually struck at the location specified by the insurance holder and whether it was a case of ground lightning or only cloud lightning, because the latter type of lightning causes no damages whatsoever to buildings or objects”, states Professor Dr. Hans-Dieter Betz, Scientific Director at nowcast.

The lightning positioning system measures the type of the lightning strike that occurred and records the coordinates by using GPS-based locating procedures. The person calling the hotline of the insurance provider generally refers to a street address. The address, once geocoded, is then linked to the coordinates of the lightning strike.

Accurate geocoding for accurate response

For the geocoding of the data, nowcast chose MapMarker from Pitney Bowes Business Insight. MapMarker is a very efficient, extensively scaleable tool, which transfers the geocoded addresses of the entire Federal Republic of Germany to a company's application server. Since the application is based 100 percent on Java, it is platform independent. The business data is linked to the geocoded addresses via standardised APIs. The result is

“geographically intelligent” company data, with site reference attached. The geocoding is realised at different levels, from the city level, through postcode zones, streets and street segments up to exact house numbers. If coding is not possible at the highest level desired, for example, the corresponding location is not recorded exactly; the solution is automatically supported with a fall-back, perhaps the next coding level. Thus a renewed search is not required.

“Thanks to Java, MapMarker permits simple and efficient integration and is highly scalable on the server side. The different geocoding levels as well as the fall-back functions are also valuable assets of the solution. MapMarker provides excellent parsing and matching algorithms, which allow for the fault-tolerant entry of inaccurate address data such as transposed digits, typing errors and non-conformance of location and postcode. These are frequent problems. Thus, it is a significant advantage that MapMarker supplies a very high matching rate even in the event of imprecise or faulty address entry,” states Dr. Andreas Wuerl, Technical Director at nowcast, as some of the reasons they choose the MapMarker solution.

Lightning queries within a short time

The complete data from the flash of lightning, such as the exact time, location, intensity and emission height is determined by software procedures in the nowcast central server and stored in the database.

When the insurance provider logs into the nowcast server the lightning data is available, so that the address of the insurance holder and the approximate date of the lightning strike can be entered in the query menu of the web

interface. If the insurance holder no longer knows the exact point of time, the entry of a time window is also possible. The speed of MapMarker is essential because the processing time of a lightning query must be as short as possible. When quick handling is feasible, the insurance companies save a tremendous amount of time and costs. It is advantageous that both MapMarker and nowcast software are very fast so that cases are decided quickly and many claims can be handled within a short time.



Using location intelligence for better analysis

Once the lightning data is captured and the address is entered, MapMarker supplies all address matches, allowing the insurance provider to verify the address. If an address cannot be unequivocally assigned, the solution suggests a variety of options, taking into account possible typing errors, etc. The address is then geocoded in MapMarker (assignment of longitude and latitude coordinates) and compared with the lightning data at nowcast to determine any linkage. “Metaphorically speaking two maps, the lightning map and the street map, are placed on top of one another and merged together,” explains Dr. Wuerl.

“THANKS TO THE RELIABLE COMPARISON, CLAIMS FOR DAMAGES WHICH ARE NOT JUSTIFIED CAN BE REJECTED ON A FACTUAL BASIS.”

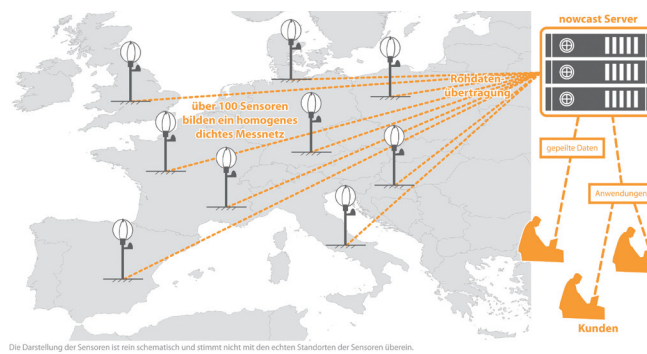
Dr. Andreas Wuerl, Technical Director at nowcast

“The responsible clerks in the insurance agencies thus obtain scientifically corroborated evidence in practical form and must no longer merely rely on vague statements. The results of the query can be downloaded as a report document and filed in the records,” comments Professor Dr. Hans-Dieter Betz.

“The advantages for our customers in the insurance sector are obvious,” added Dr. Wuerl of nowcast. “Thanks to the reliable comparison of the claims reports with the temporally and geographically exact data concerning the lightning strikes, claims for damages which are not justified

can be rejected on a factual basis. Insurance companies see a great potential for savings in this regard.”

During “lightning season,” nowcast registers so many inquiries per day that the requisite processing would not be possible without the methods described above. “Our online lightning query is well accepted by the responsible clerks and used frequently, particularly during the summer months. Without MapMarker from Pitney Bowes Business Insight, a service of this quality and promptness would be difficult to offer to our numerous insurance providers”, concludes Professor Dr. Betz.



nowcast operates a Europe-wide network of measuring stations called LINET.

In case of inaccurate address data MapMarker offers matching target addresses.

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