CUSTOMER STORY

Government Group Uses Mapping, GIS To Manage German Agricultural Subsidy Applications

PROJECT HIGHLIGHTS

- North Rhine-Westphalia completes work orders in half the time since implementing mapping and GIS system
- GeoXT handheld is TÜV certified, adhering to stringent European Union regulations for accuracy
- Trimble equipment works seamlessly with existing Chamber of Agriculture systems for a complete, end-to-end solution

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PROJECT DATE: May 2009

Agriculture has always played an important role in sustaining the health of rural economies across Europe. North Rhine-Westphalia, the westernmost and largest Federal State of Germany, is no exception.

More than 50 years ago, the European Commission of Agriculture and Rural Development created the Common Agricultural Policy (CAP) to help meet the needs of local farmers. Initially, the program was designed to encourage agricultural productivity, ensure a stable supply of affordable food, and bolster Europe's agricultural sector following World War II.

Today, CAP has evolved to promote a healthy, competitive agricultural industry across Europe. To receive subsidy payments, farmers must meet certain standards concerning public health, animal and plant health, the environment, and animal welfare, and they must keep their land in good agricultural and environmental condition.

Although the increased standards help ensure that the most qualified farmers are receiving aid, it also means additional reporting and recordkeeping by the agencies that oversee the program. In North Rhine-Westphalia, the Chamber of Agriculture is responsible for reviewing subsidy applications from local farmers, inspecting farms to ensure all requirements are met, and maintaining the local agricultural database.

Until recently, the Chamber's incompatible systems made it difficult to meet European Union (EU) requirements for managing information about local farmers' requests for government subsidies. That is, until the chamber began using Global Positioning System (GPS) technology from Trimble to fulfill EU requirements, avoid noncompliance fines, and complete work orders in half the time.

"We had some experience using GPS equipment for our inspections, but our existing system was not compatible with the rest of our internal processes and workflow," said Bernhard Sehrt, technical service inspector for the North Rhine-Westphalia Chamber of Agriculture. "We needed a better way of collecting and managing information in order to better meet the needs of local farmers."

The Chamber began searching for a GPS solution that was accurate, reliable, easy to use, and compatible with other internal systems, while fitting in the department's budget.

After evaluating their options, the Chamber purchased 28 Trimble® GeoExplorer® 2008 series GeoXT™ handheld GPS computers running FKS-Pad software. The FKS-Pad application is an ESRI ArcPad-based software solution designed specifically for the European agriculture industry in accordance with European Union regulations.

"As we started looking for a new solution, we discovered that the agricultural administration in a nearby state had been using Trimble GPS equipment for many years with great results," said Sehrt. "We selected Trimble technology based on our colleagues' recommendation, and because of the equipment's functionality and easy handling."

Although managers were convinced the new equipment would be easy to learn and use, they were still concerned about employee adoption of the new technology.

"We knew there would be some resistance to any new technology from our field workers, so it was important to find a solution that was user-friendly and intuitive, while also guaranteeing the accuracy and reliability we needed to meet EU requirements," said Sehrt. "The Trimble GeoXT handhelds were the perfect fit for us."

Now, once the North Rhine-Westphalia Chamber of Agriculture receives a subsidy application from a local farmer, it is gathered and stored in the Chamber's

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integrated administration and control system. From there, technical inspection service personnel review the application and determine which farms require a field visit.

Work orders for the field personnel are then issued in the system, which include the criteria for risk evaluation, aerial photos of the agricultural area under consideration, data from the application, the address, and quality control documentation.

"The field workers are equipped with a laptop computer and a GeoXT handheld," said Sehrt. "The field worker logs into the system from a home office or the local branch office to retrieve the work orders assigned to him each day."

With a work order in hand, the field worker then visits the agricultural site, using the GeoXT handheld to map the area under consideration, collecting information about the size of the area, and creating an outline of it. Additional information, such as type of crop, size of agricultural company, revenue, and ownership details are also collected at this time.

Once the field worker has gathered all of the necessary data, he discusses the results on-site with the applying farmer and creates an electronic test report using customized software that was created in-house and is loaded on the laptop. Back in the office, the inspector downloads the information into the Chamber's Geographic Information System (GIS), where the data can be easily viewed and analyzed using LaFIS software. LaFIS is a GIS application created specifically to help European government organizations clarify, rule, and check on farmer declarations in regards to the subsidy management system.

Next, the inspector's electronic field report is submitted to the central network for further processing. Once the report is complete, it is also submitted to the local district office of the Chamber of Agriculture. The Chamber also prints a copy of the test report to send to the farmer, as well as one for its own files.

"The reports are the basis for approval or denial of subsidies, so it's important that they're as accurate and complete as possible," said Sehrt. "Since switching to the Trimble equipment, we have been able to complete work orders 50 percent faster, as well as comply with EU requirements and avoid fines for non-compliance. The equipment has more than paid for itself."

EU requirements mandate that agricultural parcels are measured with GPS equipment that guarantees certain levels of accuracy, which can be proven through extensive testing or by using equipment that has passed EU certification. Trimble GeoXT handheld computers are TÜV Category A certified, which means measurements collected using them comply with EU standards for accuracy. Category A certification requires a buffer accuracy of less than 0.40 m, far beyond the maximum tolerance of 1.5 m, according to the area measurement validation scheme from the EU.

"Because Trimble has gone through the rigorous TÜV compliance process, we can do our work with the confidence that we comply with European cross-compliance rules," said Sehrt. "The Trimble handhelds are also helping us adhere to regulations simply because of their ease-of-use. Our inspectors are more likely to collect complete, accurate information because the equipment is so easy to use. This alone is saving us millions of Euros in sanctions charges."

In addition to using the Trimble handhelds for subsidy reports, the Chamber is also using the GeoXT handhelds to help map agricultural test lots for new types of grain, vegetables, fruits and other crops, as well as new fertilization processes. As a next step, the Chamber plans to purchase more GeoXT handhelds, and Sehrt anticipates that they will continue to find new uses for the technology.

"The reliability and accuracy of the GPS technology available today is astonishing," said Sehrt. "We plan to use it to further increase efficiency and make sure we're doing everything we can to help local farmers thrive."

THE EQUIPMENT USED ON THIS PROJECT INCLUDES

- GeoXT handheld
- FKS-Pad software
- LaFIS GIS software

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