Government of Alberta's DSRD Implements Mobile Office Initiative

Alberta Sustainable Resource Development, Government of Alberta, Canada

A department of the Alberta provincial government, working with Convergent Information Systems, significantly increases productivity and improves client service by implementing a mobile computing solution that includes rugged notebooks from General Dynamics Itronix.

"We had 30GB of data available in the office," says George Robertson, Land and Range Manager, SRD – Woodlands Area, "but staff in the field couldn't access that data unless they carried some of it with them on paper. Now we can bring over 150 layers of geospatial data wherever we go, so we know exactly where we are and what we're dealing with."

Products

General Dynamics Itronix
GoBook® XR-1 notebooks

Gamber® Johnson Mounting Solution

NetMotion™ Mobility XE™ mobile VPN

Application

Mobile Operations for Field Technicians

Overview

Sustainable Resource Development (SRD) is a department of the Government of Alberta, Canada. The department is composed of three divisions: Lands, Fish and Wildlife, and Forestry. Together these divisions control the use of public lands, manage fish and wildlife, fight forest fires, and oversee the development of Alberta's forests, while working with Albertans to ensure a balance between economic, environmental, and social values.

The Lands Division of SRD conducted the Mobile Office Initiative pilot project in the Woodlands, Prairies, Upper Hay, and Foothills Areas in the summer of 2007 to identify the gains made in the efficiency, thoroughness, and effectiveness of inspections and audits through ready access to electronic data in the field. While the Lands Division already maintained much of its data online, field staff had no effective way to carry electronic data into the field. The General Dynamics GoBook® XR-1 notebooks began solving that problem immediately. "We had 30GB of data available in the office," says George Robertson, Land and Range Manager, SRD – Woodlands Area, "but

GENERAL DYNAMICS
Itronix

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staff in the field couldn't access that data unless they carried some of it with them on paper. Now we can bring over 150 layers of geospatial data wherever we go, so we know exactly where we are and what we're dealing with."

Problem

SRD focuses on establishing and sustaining an optimum balance of use, conservation, and development of resources, in harmony with the values and needs of Albertans to manage Alberta's public land, wildlife and forest resources for the current and future benefit of all its citizens. SRD staff, such as wildlife biologists, foresters, forest officers, and agrologists, collect and assess various information, and use it to make decisions about managing the land base for its multiple natural resource values. For example, field staff decide daily where roads can be built, oil wells can be drilled, and forests can be harvested in conjunction with preserving critical natural habitat.

To make wise decisions, SRD staff must perform comprehensive field inspec-tions; for each inspection they need to bring along the appropriate informa-tion, which can include manuals, regu-lations, industrial disposition files and various maps in addition to the other gear necessary to perform the actual inspection. "Each disposition has a file that includes paper-based reference materials specific to that area," explains Robertson. "Field staff deal with 18–25 dispositions each day, so they have to pack up to 18–25 files each day into the field with them."

Carrying all that paper-based informa-tion for each disposition is not only cumbersome, but it's often impossible. Ensuring such information is always up-to-date is equally difficult. The lack of field access to current data means decisions made in the field may be based on inadequate or outdated infor-mation. To avoid making uninformed decisions, field staff must spend more and more time in the office, reconciling hard-copy records with various digital data sources and systems, which greatly reduces the amount of time they have to carry out field work such as audits, monitoring, inspections, sur-veys, data gathering, and enforcement.

Solution

With the increase in pressures and expectations on field staff, correspond-ing with the accelerated growth and increased expectations for use of the land and resources, the Lands Divi-sion of SRD commenced the Mobile Office Initiative (MOI) pilot project. This project aimed to implement a mobile computing solution that would have the potential to help the Lands, and eventually the Forestry and Fish and Wildlife Divisions work more effectively and efficiently in the field.

The Department first tested a solution using handheld PDA computers and began migrating long-held paper data to an online format. But the devices' limited processing power did not fully address the needs of field staff. SRD then engaged Convergent Information Systems (CIS), a company that special-izes in providing dynamic solutions to manage remote assets and a mobile workforce. CIS collaborates with a host of partners to build customized mobile technology solutions that best meet each client's individual needs.

Working with the SRD's MOI Pilot Team, CIS enabled the digital strategy for shifting from paper-based information and processes, and recommended equipping field staff with rugged notebooks from General Dynamics Itronix. Offering fully-rugged features, unsurpassed outdoor screen view-ability, plenty of processing power, and sophisticated GPS capabilities, the XR-1 notebook met the Department's requirements.

"CIS worked closely with the MOI Pilot Team to select a rugged computing platform that would also provide GPS performance, particularly in challeng-ing areas such as the high northern sectors of Alberta," says John Adams, president of CIS. "And with the XR-1's advanced GPS capabilities and rig-orous durable design, we knew we could build a stellar mobile computing solution and provide dependable per-formance for the field staff working in remote and environmentally demand-

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ing areas throughout the province."

The advanced GPS capabilities built into the XR-1 offered further benefits. Not only can field staff find their way around much more efficiently, but they also have access to essential resource management data, including survey information for the quarter million public land dispositions within the province. "GPS is a very useful, powerful tool that supports making valuable land use decisions in the field," says Robertson.

Full-time docking stations, made by Gamber®-Johnson, were installed in the cabs of the field staff's vehicles, so they could securely take their machines loaded with essential maps, manuals, survey data, and other disposition information on the road. The docking station also includes a special wireless WAN antenna outside the vehicle to enhance connectivity, even in isolated areas. NetMotion™ completes the connectivity with a mobile VPN solution that makes wireless data networks easy to utilize with encrypted security and application persistence.

Field staff are now able to collect, store, manipulate and send real-time data on the job. According to Robertson, "Amplified GPS is one of the best features of the new mobile computing solution. Some parts of the province have poor connection with satellites, which can make geo-positioning quite difficult. By using the new notebooks with amplified GPS docked in our field staff vehicles, we have fewer issues with dropped connections."

Results

Significant qualitative and quantitative benefits were realized during the six-month MOI pilot project.

The Lands Division of SRD reported measurable gains in productivity. "Before the pilot, we were spending one to two days per week in the office just doing reports, collecting and

attaching information, responding to companies associated with the inspections, and performing various other manual tasks," says Robertson. "With the notebooks, we have found that we are able to complete more inspections per day and have staff in the field on a more consistent basis. This has resulted in a 30 percent increase in productivity. In addition, the quality of inspections is going up because we have the necessary data at our fingertips."

With the data being available in the field, SRD field staff have the ability to layer it and add new information which has, in turn, led to some huge efficiencies. Additionally, the XR-1 has resulted in increased staff satisfaction. With previous systems, field staff often felt tied to their desks. But with the ability to access applications and securely transmit confidential information from the field, they can now complete more of their work from their "mobile office."

Another key benefit is safety. With the amplified GPS capabilities of the rugged notebooks, field staff have a valuable navigational tool. Whether they're using GPS features to weave their way through tough terrain or to gather geographical data about wellsites or pipelines, mobile computing serves as an indispensable safety tool.

The Lands Division is also able to better serve its clients now that it has implemented an effective mobile computing solution. SRD provides critical data to oil and gas, timber and other companies. Robertson adds that "Our clients may not have access to the information we do and by providing data to clients, we assist them in building better proposals which in turn facilitates the approval of their projects. We can

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also provide precise information from our inspections that warrant attention by the client. Wireless capabilities enable us to collect information in the field, send it in real-time and store it, which means we can write more accurate reports when the data is fresh in our minds rather than writing them hours or days after an inspection." Improved access to land permit and geospatial data reduces the cost of resource development by energy and timber companies by ensuring that their developments are in the most appropriate locations while still complying with provincial legislation and land use policies. In addition, this helps preserve natural habitat and prevent inadvertent development in sensitive ecological areas. Improved client service is the end result.

Based on the success of the Lands Division pilot project, the Fish and Wildlife and Forestry Divisions have begun their own pilot project with the rugged XR-1s to aid field staff in their enforcement activities such as preventing illegal hunting and fishing, and to help forestry staff manage Alberta's forests, enforce fire permits, and fight wildfires.

"By providing field staff with the mobile technology they need to make timelier, more informed decisions through electronic access to critical data, SRD now has more operational time in the field to carry out data gathering, audits, compliance monitoring, and other critical and required field activities," says Robertson. "That not only enables us to serve our clients and the people of Alberta more effectively and efficiently, but it also substantially improves staff productivity, enhances their safety, and increases overall satisfaction."

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