



Returns flow from SEPA investment

GeoField is helping the Scottish Environment Protection Agency (SEPA) make substantial savings

SEPA is Scotland's environmental regulator charged with protecting and improving the nation's 78,000 square kilometres of land, which includes 25,000 lochs (lakes) and more than 125,000 kilometres of rivers and streams.

Nearly three-quarters of the country's land is in agricultural use, and the most significant environmental problem is diffuse pollution from agricultural operations. This is especially true of Scotland's waterways. While 63% of them are rated as being in good condition, under the European Union's Water Framework Directive the Scottish government has committed to raising this figure to 98% by 2027. SEPA has identified 102 'priority catchments' – waterway regions that need remediation under

this ambitious plan. And the first step is to identify and classify pollution types and sources along every kilometre of the waterways involved. That will require some serious field work: SEPA staff will walk the entire river network surveying each catchment, and will also perform farm-scale inspections nationally.

The first 14 priority catchments are scheduled to be completed by 2015. But all this work must be done within a current climate of severe public-sector spending cuts, which include a 20% reduction in staff.

Reviewing the project's data collection requirements, Dr Jonathan Bowes, Senior Data Analyst/Modeller for SEPA, recognised that the process would be extremely labour-intensive. An enormous

“The project has attracted a great deal of attention across SEPA as this concept of paperless field work is applicable right across the board. Potentially it could revolutionise major parts of SEPA's business ”

Many happy returns

In this issue you'll read about the great results SEPA gained from going digital. As an environmental organisation they love to save paper too. Bristol Water had similar success in their mobilisation project, taking some 1.5 million sheets of paper out of their field engineering operation. The manufacture of paper is very polluting so this is a big win for the environment. Add on the reduction of printing and ink and the rewards are even bigger.

PDG Helicopters got their bonus payback from more collaborative customer relationships, winning more business and a reputation for improving data quality and value for their clients.



Mobile projects have the potential to repay investment many times over

In general GeoField has huge potential to repay investment simply in better data. From public sector to engineers and utilities, data quality is firmly back on the agenda. We've heard the same stories: giving field staff the right tools transforms the data cycle. As well as speed and accuracy, GeoField frees locked knowledge, captures information that was otherwise lost and rewards staff by swiftly updating the maps and reports they rely on.

What we've learned is to get that business case over the line, benefits can be so much more than cash. Keep it simple and run a trial to get the evidence. We'll be happy to help.

Welcome...

Welcome to our winter edition of Field Views – wow, where did the year go?! Time certainly flies when you're having fun, and we've had a busy year helping blue-chip customers improve field worker efficiency. We'll be talking more about these projects in our Spring edition. We've also been busy adding to our mobile expertise with five new staff joining us this year and more in 2012.

Reports of bleak economic conditions are unavoidable these days and worse is forecast for

next year. So we thought this would be a good time to focus on return on investment. Mobile solutions continue to be a rare ray of sunshine in stormy skies, and anyone looking to get the most from a squeezed budget can be confident that investment in mobile working pays back a lot more than you spend. We hope you find the stories of how others made their business case useful.

We're also expanding into new markets with very encouraging starts in emergency services and construction. To underpin



Mobile technology promises to be even more important in tough times

our growth in enterprise data management we're investing in new technology partnerships to enhance GeoField's integration with the asset management, ERP and CRM systems our customers use. It is great to have IBM as a new partner, adding to our Microsoft, Ordnance Survey and Esri credentials, and we'll be announcing more next year.

Merry Christmas & best wishes for 2012. We look forward to working with you in the year ahead.

Paul Reid | Managing Director

Return on Investment for SEPA

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► volume of field data would all have to be logged manually, recording 55 types of non-compliant agricultural practices, as well as other details. The data would then have to be organised and entered by hand onto SEPA's central computer system.

As a specialist in GIS, Dr Bowes also recognised the advantages technology could bring, to streamline this process. The result was the pilot project to trial hand held computers, equipped with software which would eliminate paperwork for field staff. The South Esk priority catchment was selected as the pilot area for evaluating digital data capture technology alongside the existing pen and paper method. Finances are extremely tight in SEPA so investment in such projects must deliver value for money.

Sigma Seven was chosen to provide the system for the project and the team used tablet PCs, equipped with a customised GeoField solution, to gather the data required.



GeoField delivered 80% savings in river catchment surveys

On reviewing the results of the pilot scheme, it was clear that technology had enhanced the process and the quality of the data collected.

SEPA noted that typos, errors, illegibility and the adverse effects of weather on paperwork were eliminated. The information was gathered in real time and quickly uploaded onto the agency's systems, which then automatically generated reports and maps, ensuring a full audit trail was available.

Clearly, the technology had made the process easier, faster, more accurate and more secure. These improvements alone were of significant benefit to the project. The bottom line, though, was the crucial benchmark.

When the team compared the outcomes of this pilot scheme with the paper based processes, the differences were substantial.

The comparison used a base of 400km of waterways walked and found that the paper based

processes took 45.5 days to complete. However, the scheme using mobile technology took only eight days, saving over 37 man days on one small area.

This 80% reduction in workload translates to a massive saving of £708,000 for the first 14 catchment areas and even bigger returns projected for the full 102 catchments.

Unsurprisingly, SEPA has switched to a GeoField system for the project, using GeoField forms, workflow and data management software, in conjunction with Algiz 7 mobile tablet PCs all integrated with SEPA's databases.

It's safe to say that SEPA's initiative has proved to be a very successful one, financially as well as operationally. The result is that Scotland's waterways are now being assessed much more quickly and efficiently, as well as much more cost effectively.

News roundup

Galileo off the ground at last

The much heralded EU answer to GPS – Galileo – has finally got off the ground with the launch on 21st Oct of the first two satellites of a 27 satellite constellation that will make up the navigation system promising cheaper and more accurate location data across Europe. Roll on 2015.

LightSquared vs GPS

There's a major industry spat in the USA barely getting a mention here. In an increasingly bitter dispute, a hedge-fund backed start-up called LightSquared has spent billions building a new national wireless broadband network. Good news you'd think but LightSquared plans to use frequencies reserved for satellites which, the US Government reports, will jam 75% of GPS receivers. Unsurprisingly the GPS industry and users are

up in arms. This isn't just about SatNav they say – LightSquared's plans threaten a system at the heart of everything from agriculture and surveying to aviation safety and marine navigation. The US FCC is due to rule this month. The story has intrigue, claims and counter-claims of leaks, fraud, corruption, insider dealing and political bias. Who said GPS was boring?

Switch off, turn on

Around the world, TV services that have been broadcasting for decades are being switched off. Old analogue signals are being cleared from the airwaves and replaced with more efficient digital TV signals.

The result of this means that lots of the radio spectrum is being freed up. New services can take advantage of the space that is coming available. This part of the



Launch of Galileo heralds a new era in satellite navigation

TV spectrum is also highly desirable since it covers frequencies that travel well over great distance and through solid objects such as walls. In the UK Ofcom will auction this space in 2012.

Mobile phone operators are the most keen to use the new frequencies to increase provision of mobile broadband for smart phones and tablet PCs. They have seen an explosion in demand for mobile services mainly driven by new consumer devices.

Studies show mobile broadband delivers the greatest economic and societal benefit. It's still a long way from a 'guaranteed everywhere' service many businesses need, but systems such as GeoField will be able to take advantage of improved connectivity and bandwidth for data updates.

Sigma Seven to the rescue

Sigma Seven has over a decade of experience in providing dedicated mobile software solutions. In that time we have worked with many different organisations and adapted GeoField to a wide range of customer requirements.

We are always looking to expand the reach and application of GeoField. One area we are becoming particularly active in is that of emergency services.

Due to recent legislation and guidelines, providing front line staff with high quality operational information, such as detailed geospatial, address and risk data is becoming mandatory within this sector. As a result, emergency services organisations are adopting mobile technology, to ensure data is collected and managed more

efficiently, in order to boost data accuracy, integrity and quality.

GeoField is ideal for their requirements and we are already working with several fire and rescue services to help further improve the efficiency of their data collection processes.

To help keep other emergency services organisations informed about the advantages of our state of the art mobile technology solutions, Sigma Seven exhibited at the recent Emergency Services Show in Coventry. The Show is viewed as the leading event for emergency planning, response and recovery professionals, both in the UK and abroad and it was attended by more than 4000 people. This was a very successful event for us, as our stand attracted many



Mobile adoption brings accurate data collection and operational risk information for front line staff

visitors keen to find out more about GeoField. We demonstrated how it can help create efficiencies in mobile data management for fire & rescue services, the police, NHS and any other area within this sector, where the accuracy, integrity and timely delivery of operational information is paramount.

Visitors were also interested to hear how GeoField can help emergency services by mobilising valuable data relating to community safety, address management, hydrant inspections and hazard spotting.

In addition, we explained how it allows users to go beyond mandatory requirements, enabling best practice and efficiency savings within field based data management workflows, all on one simple to use system.

Return on Investment 2: CSFT

Central Scotland Forest Trust saves paper to save trees and improve the landscape

More and more organisations are benefiting from GeoField and we're pleased to report another satisfied new customer, the Central Scotland Forest Trust (CSFT).

The job of the Trust is to improve the landscape of Central Scotland, for the benefit of all living there. One of their tasks is to locate and record wildlife habitat areas and we have been able to help them make the process faster and more efficient.

The CSFT had identified the need for GeoField for a number of reasons. They had GPS recorders in use, but they were becoming obsolete and the Trust recognised they needed more up to date technology. They were also keen to make their back office process more efficient, especially by improving consistency of data collected. It was being recorded manually into the GIS system and the Trust saw the value of removing

the manual element and automating this part of the process instead.

We tailored GeoField to the Trust's specific requirements, to create the ideal software solution for the job. One of the benefits is that they can now view OS Mastermap®, Ordnance Survey's most detailed digital map, on their new Algiz 7 tablets. This enables much more accurate recording of location. On screen GPS assists with this too.

All in all, we provided a 'one-stop-shop' solution, including mapping, geospatial editing, GPS capabilities and a camera, all available on one device.

This has helped the Trust improve the value of the information collected, as it ensures that none is missing. Inconsistencies are ironed out as well. The trust have found they have saved time too – 25% of their time to be exact. Their team no longer spends as much



CSFT now complete their field work in ¼ of the time

time on processing the data, now that manual transcription of field collected information has been removed from the process and replaced by automated updates by GeoField.

Most surveys are now taking less than half a day to undertake, whereas previously a full day would have to be allocated. This frees up staff time, providing the organisation with more flexibility when bidding for and working on other field projects.

The previous collection process required field workers to take an A3 paper map with them for reference and they would write up at least 4-5 pages' worth of a notebook, in recording the necessary information. Now, field workers no longer need to take a notebook or a map. They can easily enter all the data they need, straight onto their tablet and GeoField takes care of the rest.

Meet the team: Jonathan Bunn

Jonathan Bunn joined Sigma Seven in May to take on the role of Business Manager for Utilities and Telecoms. Since graduating from the University of Portsmouth with an MSc in Information Technology in 1992, Jonathan has spent the best part of twenty years focussed on delivering geospatial IT solutions for asset and network infrastructure management to the energy and telecommunications industries worldwide.

'My responsibilities in this new position within Sigma Seven are to grow the utilities business and develop our presence in the UK telecoms sector. This is a new area for the company and our solutions



translate well to the requirements of the telecoms industry. I will also have an active role in the company's international expansion.'

A key component of Sigma Seven's GeoField is the ability to integrate with existing enterprise software applications through GeoField Exchange. Data can be extracted from a number of corporate systems to create pre-configured, spatially-enabled mobile workflows for operational field use, independent of office location and enterprise connectivity.

'There's some very sophisticated software engineering happening within GeoField, says Jonathan, 'my focus is on helping customers realise the benefits of that great

technology throughout their business, such as improved quality of corporate data, streamlined work processes, increased productivity, reduced costs and enhanced customer service.'

'This is a fantastic time to be joining Sigma Seven and I am excited by the opportunities ahead. The company has well established solutions, supported by a very strong software engineering and executive management team and I look forward to being part of their future success.'

When not engaged in commercial activity, Jonathan divides his leisure time between his 8-month old daughter, hiking, scrambling and cycling.