

Driving business through data

Tim Dowling of AEA Technology looks at the increasing use of technology by environmental managers and examines what that means for the future of information management



Environmental managers have been relatively slow to use new technology to help them carry out data gathering, storage, analysis and reporting, but now scrutiny is greater, and responsibilities are broader, they are finding a trusted baseline of business-wide technology tools are needed to exploit that information.

Most businesses collect some environmental data, such as energy use, tonnes of waste produced, and business miles driven. But two factors are quickly changing this simplistic approach – senior managers in industry are realising the real value of environmental information and regulators are seeking greater confidence in industrial operations.

Typically, companies have responded by gathering specific data to help resolve particular issues or by collecting more general data on a range of issues to build a better picture of total environmental impact.

Remote monitors for accuracy and speed

As far as getting more data, falling hardware and software costs have led to increasing use of continuous environmental monitors (CEMs), where remote sensors take data readings, automatically transmitting results to databases if needed. This technology is widely used in local/regional air quality monitoring networks for regulatory purposes.

"The capability of CEMs to capture large amounts of continuous data has been recognised by both operators and regulators," says Alan Leonard of NETCEN, which manages the Environment Agency's MCERTS scheme, which aims to provide assurance to the Agency on data quality from CEMs. "For operators they provide a means of control and improved efficiency, while enabling regulators to monitor processes against emission limits and ensure the environmental impacts of regulated processes are kept within accepted guidelines."

Handheld devices link diverse sites

Continuous monitoring and automatic database updating has helped overcome a frequently cited problem for many companies – 'getting the data in'. One of the most promising and accessible new technologies in this respect are handheld data-gathering devices. These have enabled geographically-disparate or multi-sited companies to enter non-continuous data manually from the field and communicate to a central database via secure mobile telephony. These include groundwater, effluent treatment, rain meters and dust monitors.

The advantages of this technology are:

- ◆ Time and operational cost saving (avoids duplicative data entry at the head office);
- ◆ More accurate information;
- ◆ Convenience over pen and paper;
- ◆ Immediate access to information and therefore increased reaction speeds; and
- ◆ More meaningful data as GPS or time/date stamps can be added at data collection point.

Companies outside the environmental sector also cite benefits in simplifying supply chain

data collection, gathering health and safety information (near misses, accidents/incidents), stock control, automated dispatch systems and process information.

Surprisingly the technology is also cheap. At about £750 for a handheld device and phone, companies can immediately communicate with a central database. Also, the technology can be integrated into IT infrastructure – a rare case of industry-wide co-operation means manufacturers have standardised much of their software.

Emerging technologies such as Bluetooth – technology that enables linking to the internet – will take handheld devices to a new dimension. This won't just make existing processes faster, but should lead to new solutions, such as the diagnosis of technical problems via remote access to technical databases.

Making use of the data

One rule of data and information management is: don't gather it if you can't use it. The bottom line is ensuring your investment in collecting data and information is not wasted. Generally, companies have established what they need and how to communicate the output. What companies lack is a tool that can live with existing technology and grow alongside rapid advances such as Bluetooth.

Data and information management systems that link seamlessly with existing administrative systems, such as SAP, are becoming increasingly widespread and access to them is available over the web. Data from CEMs or handheld devices can be entered into such databases and their output tools will generate professional reports and statistics in seconds, posting them to intranet/external websites if required.

Professional data management software solutions offered by Monitor-Pro or US-based supplier, EquIS, enable companies to monitor and manage their data and information more effectively, demonstrating underlying trends and inefficiencies in a fraction of the time usually taken with multiple spreadsheets.

Before such systems were available, many businesses would estimate environmental data in calculating business measures and apply 'fudge factors' if things didn't look right. Unfortunately, the result of this was often misinformed decision-making. Professional capture of data and analysis tools make this scenario a problem of the past.

But what about the realities of shrinking budgets and reductions in capital expenditure? As these technologies can often be used in other areas of the business, expenditure can come from non-environmental budgets such as IT, operations and site management. Also, paybacks are usually rapid.

Environmental data and information now has a real value within businesses. The challenge now is not so much in finding useful technologies to help capture and make sense of it all, but in changing the way we use the output to drive forward business objectives.

● AEA Technology (020) 7554 5500