

SAP Customer Success Story
Agility



AGL's infrastructure management and services company, Agility, provides operational and maintenance services to AGL Energy Networks for both its natural gas and electricity distribution networks.



AGILITY SUPERCHARGES NETWORK MAINTENANCE WITH SAP

DEREGULATION FORCES RETHINK

SAP asset management modules are integrated with Agility's Geographical Information System (GIS) and handheld PCs to manage the maintenance and improve the reliability of the electricity network in the North Western regions of Melbourne, delivering savings of up to \$3 million annually.

The pressures of deregulation inevitably force companies to make dramatic changes that can be facilitated through effective information systems. For Agility, a subsidiary of energy giant AGL, substantial changes to the structure and regulation of the Victorian electricity market has necessitated a complete reworking of the company's asset management program. The foundation of this program is SAP's asset and project management capabilities and the Geographical Information System (GIS).

Whereas AGL manages customer relationships, and owns the energy delivery infrastructure, Agility is responsible for maintaining the electricity sub-transmission and distribution infrastructure that delivers power to customers. This infrastructure includes more than 100,000 electricity poles, 4,700 distribution substations, 270,000 electricity sites, and 7100 km of distribution wires spread across 950 square kilometres of Melbourne's north-western suburbs.



As a result of the ongoing deregulation of Victoria's electricity industry, increased reporting requirements have mandated improvements in asset management and financial controls governing the increased number of market players.

"Regulators are setting more stringent targets for asset performance and asset owners are becoming more demanding."

David Spears, Agility

"Asset owners require more choice in asset management strategies and these strategies need to align with their chosen business risk position.

"At the same time, regulators have introduced financial incentives and penalties based on network performance. This leads to the need to have good quality data able to be analysed to identify cost effective asset management strategies with different risk profiles."

In 1997, Solaris Power - at that time 50% owned by AGL, but bought outright in 2000 - faced a major challenge in compiling this data. Power distribution networks are an asset intensive business with equipment tied to specific locations. As such, electricity distribution companies have been avid adopters of GIS, which provide a way of visually representing assets, their connectivity and their related information on a detailed map. Solaris Power worked to build a comprehensive asset database based on the GE Smallworld GIS platform.

The ensuing project was an exercise in tenacity: six different asset databases and work management systems were analysed, reams of paper documents were organised, and a consolidated GIS was established.

By 1999, it was recognised that the power of GIS would be maximised when it was integrated with other systems throughout the company - particularly, those handling financial and administrative issues within its backend. A market survey involved the evaluation of five potential systems, and the SAP ERP system was selected.

"It was a given that we would use SAP for Human Resources, Finance and so on, since AGL was already using SAP," said Spears. "We evaluated different asset management products, but in the end it made sense to stick with SAP because it met our requirements and linked in with our other systems.

"That means we could have the SAP Finance and Human Resources module linking in with our plant maintenance to get a holistic view of business activities."

Agility implemented SAP's Plant Maintenance, Project Systems and Materials Management modules, and used TIBCO ActiveEnterprise middleware to develop adapters that facilitated the exchange of information into and out of both the GIS system and SAP.

In the past, work orders for constructing, inspecting and repairing network assets were handled independently of these systems. Integration of the GIS with SAP, however, has given Agility an extremely efficient and accurate process for managing its assets. Inspectors are able to record inspection results and check assets through the use of a ruggedised computer loaded with extracts from both the GIS and SAP system. The inspectors are able to create SAP notifications whenever a defect is found and can update the asset database.

Each week, assets inspectors remotely dial into the Agility computer network, and automatically upload asset inspection results and updates into the GIS and maintenance recommendations into the SAP system. These recommendations are automatically allocated to the appropriate Agility maintenance planner, and are tracked within the system until the job is assessed and either

completed or reprioritised. Work orders remain logically tied to the assets to which they pertain, and more than 1.1 million assets have been catalogued in the SAP system.



The system's innovative integration has produced some very real benefits for Agility. Before the project, for example, the company employed 8 staff whose sole responsibility was entering asset and inspection data. Now, the same work is managed by just two people. The savings alone add up to \$300,000 per year.

Furthermore, had the asset management systems not been installed it is estimated that Agility would have needed another 40 people - at a cost of \$3 million annually - to process current amounts of asset management data. More than 180,000 measurements and inspections are recorded in the field each year.

The Asset Management Systems have helped Agility to improve

the reliability of supply to the network customers. Over the past three years there have been substantial improvements in key performance measures. The customer average interruption duration has decreased by 29 per cent and system average interruption duration has decreased by 15 per cent. Furthermore, early identification and management of deteriorating equipment has seen a 50 per cent reduction in cross-arm failures, 50 per cent reduction in pole failures, and 60-70 per cent reduction in insulator failures.

Improved visibility of information relating to network faults has facilitated improvements in the network's availability and has provided valuable data for network planning and strategic management. Agility staff use the real time interface between SAP and GIS to produce a visual map that highlight areas of the network that have suffered a high incidence of faults and also where planned maintenance is due. Agility also utilises the GIS system's web enabled interface to provide access to visual maps of streetlights for local councils - a service not previously able to be offered.

The delivery of such significant benefits led to the project's submission in the Geospatial Information & Technology Association's annual Excellence Award program. The project was well received and finished as runner-up in a highly competitive field of entrants.

"Because we know the attributes of each particular piece of equipment, we can see whether it's a manufacturer or age-related failure, and target redesign of the network," said Spears, adding that the Asset Performance Group staff report that the systems have cut their required analysis time by one-third.

"When we did analysis in the past, about 90 per cent of our time

was spent gathering data from various systems - mainly Excel spreadsheets, Access databases and pieces of paper. Now, the gathering of data is much simpler because it's either in SAP or the GIS. That means we can spend less time gathering data, and more time analysing it."

AT A GLANCE

SAP solution components	PM, PS, MM, HR, FI, CO (Version 4.6c)
Hardware platform	Sun Microsystems V880 server
Operating system	Sun Microsystems Solaris 9
Database	Oracle V9.2
Number of users	300
Number of sites	5
Length of implementation	9 months

A one-sentence description of the desired change: To utilise SAP and the integration with other core IT business systems to effectively record, display and analyse information in order to optimise the performance of AGL's assets

Implementation partners	Deloitte
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