Case Study
City of Cape Town Electrical Support Services

Client Background

The Electrical Support Services (ESS) department is responsible for transformer and switchgear installation and refurbishment, electrical construction and installation, planning and execution of all capital projects, civil maintenance and construction and corrosion prevention and protection for the City of Cape Town's Electricity Department.

ESS work on an excess of 9 500 substations with a geographic spread of over 2 400km^2.

Key Challenges

ESS and the Asset Care Centre (ACC) are faced with several challenges to ensure a fully functional and operational environment:

- Large geographical spread and diverse customer base serves as a big challenge for efficient work planning and control.
- Limited access to resources to identify and implement focused improvement projects.
- Shortage in manpower .
- Communication challenges associated with a large client base and geographical spread.
- Client frustration with long lead times.
- Service providers not committing to delivery dates.

"With the inclusion of the ACC at Electrical Support Services, we were able to facilitate an effective business process that encompassed our work flow and the relevant staff who are responsible for the execution of the work as per the demand. The ACC provided a platform for the staff at ESS to be able to easily detect priority work, work that was falling behind and the status of any job at any time. We have been able to provide easy distribution of work to our various sections within ESS because of the identification of work execution and the application of our business process."

Pedro Brandt, Head(acting): Electrical Support Services

Pragma Intervention

An Asset Care Centre was implemented to support ESS in optimising the use of the functionality available within SAP® and to assist to optimise their processes. Key focus areas:

- Information management
- Job tracking
- Route planning
- Contractor management
- Project management
- Work Planning and Control
- Performance Measurement
- Focused Improvement
- Bottleneck identification
- Method study and an integrated management system
- Focus on long term value add and strategic direction of ESS including performance monitoring of operational activities
- Change management.

Improvement Projects:

- Development of an estimation tool to determine the time required to spray a single transformer to determine how many units can be sprayed per day for improved planning.
- Development of a route planner tool to shorten travel between units. Units scheduled for live spray are plotted on a map to increase work efficiency. Schedules are created and sorted according to the shortest route methodology to increase work efficiency.
- Replacement cost of a unit vs refurbishment was established to highlight the importance of transformer maintenance.

Value Add

- Central communication point for all with efficient scheduling, job tracking and bottleneck identification.
- Refurbished unit cost 70% less than a new unit.
- Estimated 30%-40% reduction in travelling cost and distance travelled.
- Increase of 2500% in operational output since ACC's inception.
- Accurate asset data.
- Standardised work planning and control.
- Easier increase decision-making base on accurate data.
- Improved Asset Management reporting.
- Improved utilised SAP® system.

Tools and Technology

- SAP® R/3: Plant Maintenance and Project Systems Modules
- Microsoft Office VBA programming
- RAMM tracking and E-fueling
- Garmin Map Source.