

# Client Reference

## Oil and Gas | Petrochemical Plant Equipment Maintenance Strategies (EMS) Development



### Client Background

Our client is a large petrochemical integrated manufacturing facility producing base and performance chemicals. It also produces electricity and other utilities and provides site support services to enable the manufacturing processes on-site.

The project's scope was to develop equipment maintenance strategies in Meridium software for prioritised equipment, package maintenance plans, and ensure they are loaded onto the SAP® System for scheduled execution.

The maintenance strategies were developed for three business sub-hubs/sites comprising approximately 37,000 pieces of equipment. The target was to complete about 2000 strategies that could be copied to similar equipment for the remaining 37,000.

Strategy development followed a streamlined reliability-centred maintenance (sRCM) process, with each step outlined in an integrated definitions (IDEF) methodology. Each sub-hub was divided into areas of responsibility per the reliability engineer (RE), who championed the IDEF methodology among the different internal stakeholders.

### Key Challenges

- No documented maintenance strategies/tactics for 37,704 pieces of equipment in Meridium. The challenge is the unknown risk and impact of equipment failure on operations.
- No documented failure prevention and impact mitigation interventions.
- Limited reliability engineer skills in developing maintenance strategies/tactics and facilitating development. This negatively impacts the quality of failure prevention strategies and reliability engineering decision-making.
- No documented, detailed step-by-step guideline document for RE to successfully achieve the outcome of well-documented and implementable strategies/maintenance tactics. This results in inconsistent equipment maintenance strategies (EMS) quality.
- No maintenance strategies/tactics library for an efficient development process. Without this, the development process is lengthy.



### Value Add

- 1625 (81%) maintenance strategies/tactics have been developed and documented in Meridium, packaged into maintenance plans, and updated on the SAP® System.
- A clear, structured maintenance strategy and tactics development guideline, defined as IDEF0 EMS Development Steps now exists for future use.
- Reliability engineers have been upskilled in key reliability engineering subjects viz. sRCM, Defect Elimination, Reliability Engineering in Practice, Structured Problem Solving and Financial Decision-making.
- A detailed tactics reference library has been developed and used.

**Pragma facilitated the successful development of equipment maintenance strategies and tactics, helped convert them into maintenance plans and uploaded them into the SAP® system. Our team received the necessary tools and guidelines for future strategy and tactics development and the knowledge to manage our reliability engineering programme.**

### Pragma Intervention

- Pragma reliability engineers facilitated the EMS development process and coached the client's reliability engineers.
- Developed and applied a well-defined, clear, and practical guideline for EMS development, implementing an invaluable multi-discipline-centred, risk-based IDEF methodology for equipment maintenance strategies (EMS) development.
- A petrochemical operational expert presented practical training (including projects) and provided several tools to upskill the client's reliability engineers and other stakeholders involved with EMS development and implementation.
- Managed and coordinated the overall project.
- Facilitated change management by providing knowledge and benefits of having well-defined and documented strategies during sessions and ad hoc interactions with the client's representatives.

### Tools and Technology

- Pragma's Maintenance Plan Development (MPD) procedure
- Discreet steps of the MPD translated into IDEF0 methodology guideline document
- Pragma Academy's training material: Asset Management Landscape, Reliability Engineering in Practice, Focused Improvement, Financial Decision-making
- Meridium system
- Microsoft Teams platform
- SAP® system
- SRCM Excel spreadsheet