



**completion**



**Project Completion Solutions**

## COMPANY PROFILE

**CMS Commissioning Management Services** are a company which specializes on Project Execution, Completion and Start-Up Solutions. We strive to excel within the industry by providing a distinctive quality verification service in an effective and efficient way.

CMS was founded to fill the needs for an alternative Project Completion Commissioning Management System and emerged to answer the major challenge faced by the fabrication industries where owner and contractor required verification and certification for projects with a cheaper alternative.

CMS have experience in managing, implementation and developing completion process solutions since the year 2000 on many projects. CMS recognize and understand problems associated with fabrication and construction practices on projects and strive to make the verification easy and reliable for the project partners. The CMS system can be audited at any time by third parties.



## Vision

Provide the most cost effective and efficient project completion and commissioning solutions for the construction and fabrication industry

## Mission

Establish Construction and Commissioning Project Management tool for Completion or Commissioning and attain high quality deliverables on budget and in timely fashion.

Establish a common project-wide strategy and goal which will enable progressive verification of physical installation work, according to the design and specification of system equipment

Provide professional staff to ensure a high quality implementation of services and deliverables.

Deliver integrity of a “ready for operations” status as scheduled and provide smooth transition process and hand-over of pre-defined systems and equipment.



## **CMSCompletion Services**

Catering for client needs we can offer partial or complete solutions that suit client's requirements and needs. Each project is treated uniquely. We analyze project profiles before hand and give advice for the most cost effective solution for completion or commissioning strategies that will suit our client needs. CMSCompletion and services packages incorporating a set of tools; Mechanical Completion Pre-Commissioning and Commissioning and Preservation.

The purpose of our services is to verify that the facility is constructed, mechanically completed and commissioned in accordance with the design, best practices and provides traceability against performance standards ensuring compliance with relevant drawings, specifications, codes and regulations.

CMSCompletion deliver a realistic and practical approach in quality assurance and control (QA/QC), combined with completions activities, it is a scalable solution. The CMSCompletion service package can be applied from a range of small to large projects, from module construction yards to a complete LNG refinery installation. The dynamic nature of projects requires tracking of all stage to maintain system integrity to meets project and class requirements.

## **Methodology**

Early in the project preparation should be made to ensure and prepare the way for a smooth construction and commissioning handover. During these initial phases, key engineering data and equipment identification should be defined and recorded. This information can then be directly imported to the relevant systems and sub-system defined by company and populated accordingly in to the CMS database. All equipment will have a unique I.D. ensuring no duplications.

Identification of these system boundaries on general arrangement, mechanical, P&ID's, Electrical and Instrumentation drawings are done at an early stage by Discipline Engineers. This will helps in establishing a structured system boundary for the construction and commissioning phases. CMSCompletion will and can help in establishing support at a very early stage for identification of these system and sub-system boundaries.

We provide a set of standard inspection and test records ( $\pm 500$ ) for the Mechanical Completion, Pre-Commissioning and Construction activities suitable for a wide range of projects including, Offshore platform, Drilling Rig, Ship building, Pharmaceutical plant, Aromatic plant, Power plant and more. These records have been developed from previous projects, 'lesson learned', and cover all disciplines. Alternatively we can use Clients ITR formats.

Within CMSCompletion framework we facilitate the development of your project specialized procedures and inspection test records for any specialized activity. These ITR's can be as printed or as an electronic form which cycle throughout the project.

Each ITR has its own unique barcode which will be recognized. This can be useful for signoff and data input completed by technician and engineers, thus enabling the organizing and storing all completion ITR's when work is completed in the field by technicians. This option will save significant man-hours from tedious data input process. It gives a simplified handling and status of all completed documents. Hand Held devices may be used with the application if required.

## CMS solutions

CMSapp and CMSweb are introduced and developed to act as a computerized monitoring tool to assist efficient execution of Mechanical Completion, Pre-Commissioning, Commissioning, Preservation, Quality control and Vendor activities. This front end application maybe issued by owner to fabrication contractors and vendors to ensure data requirement are met and to verify that the supplied data is controlled to comply with the format specified in the project procedures.



Our solutions package aims on providing the best completion services for the project stake holder, establishing a common project-wide strategy and goal which will enable progressive verification of physical installation work, according to the design and specifications of equipment and systems. By achieving this in an efficient and timely manner, we are able to have and smooth transition process and turn-over of pre-defined systems and equipment.



**CMSapp Solution** has been developed and acts as a computerized monitoring tool to assist efficient execution for planning, implementation, management and documentation of mechanical completion, pre-commissioning and commissioning activities for a project. We provide windows based desktop application for smaller project which is packed with its own integrated Web access ready for our client intranet implementation. It is a true 32/64bit client/server application optimized for site, offshore or fabrication yard locations.

**CMSweb solutions** Web application ASP.net Technology based which is designed for plant wide implementation. It is a true 32/64bit client/server application optimized for corporate wide area locations. It is deployed on a corporate intranet/extranet with a dedicated operational server. A collaborative real-time work environment for projects that require a fast and reliable project completions program. Multiple projects can be done simultaneously if required.



## FEATURES

Visualizes and displays the project as hierarchical systems or sub-systems with all equipment preliminary, Test Plan, P&ID, Loop drawings, ISO's, datasheets, HSE and procedures attached (optional).

Organize project equipment data, manage/monitor and report status completion of quality verifying document with Integrated Punch list Management.



Built-in preservation module. To provide a seamless transition between each project phase, enabled to be easily export or imported among different major maintenance system vendor (MRO Maximo, SAP) or any corporate in-house software.

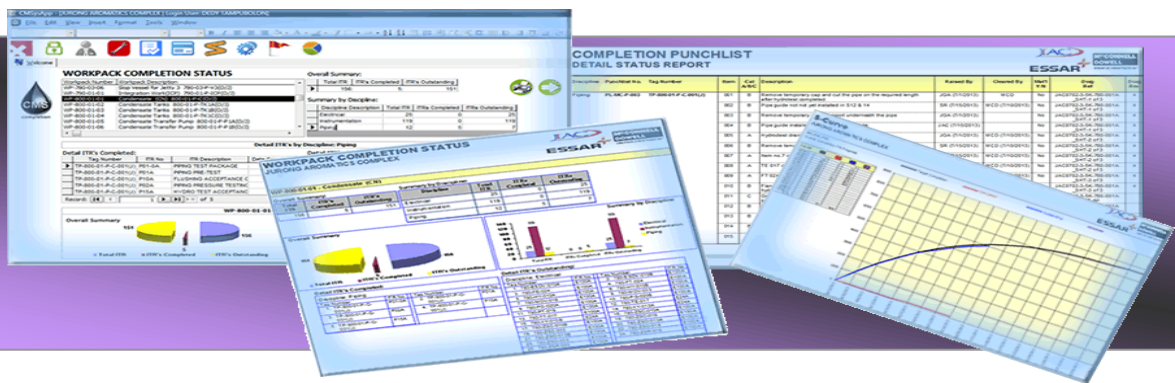
Provided with a certification database which will status all mechanical completion, pre-commissioning, preservation, punch lists, work packs, Site Instructions, Technical Queries and various handovers between Responsible Parties / Asset Managers within the Project.

Ready to print, management reports such as, system-subsystem detailed reports, punch-list consolidation, completion curves etc. More flexibility in creating 'tailor made' reports when required.

Enables to store an electronic copy automatically of all data in status index for reporting of functional tests and certificates completed on the project. Bar-coded check sheet are further scanned through an automatic feeder, to sort and safely distributed to each designated repository.

Each project supplied with 500 ITR check-lists that monitors the progress of any project.

Livening up notice certificates (LUN) as equipment is energized after mechanical completion and used in dynamic commissioning phases.



Enables data exchanges between various engineering and planning software.

Customizable user administration and privileges.

Linked to Project Planning and Progress reporting

## **Site Personnel**

A CMS administrator and systems engineer will set up the CMS application. These people will setup the systems and data network for the project assigning permissions to responsible people as directed by the client.

The CMS custodian works at site with data management support from corporate level CMS when required. These persons will coordinate and maintain the integrity of the various engineering data from vendors, fabrication contractors and engineering companies and the commissioning team.

## **CMS Administrator**

For each CMS completion project, a CMS administrator will be in place, he or she is the only authorized person to make all changes to the systems. The Administrator will have write access which enables him / her to carry out the necessary changes that have been approved by the system and discipline responsible commissioning engineers and commissioning manager.

The administrator will also be responsible for any training required by client plus weekly report generation and overseeing compilation of quality/ certification Records/dossiers.

## **Data management and Pre-processing**

Importation of engineering register, databases and tables produced during project. We assist the population of the completions management system database from data sources such as equipment list, line list, pipe spools register, instrument index, telecommunications data, hydro-test package, N2He Leak test, instrument loops folder, cable schedules, circuit and vendor data. Transforms and adapt the data requirement that will suit our client specification.

The CMS administrator will assist in CMS data integrity audits when required and final checks of data before final upload commences. This is done through the CMS development process.

## **Project Workforce**

CMS completion personnel experience lies in both Onshore and Offshore environments. We can provide a full team of discipline personnel which will drive the commissioning of the various systems within your facility.

CMS completions global have experienced managers, commissioning engineers, supervisors, technician, planners and site administrators. We have a team of certified personnel who specialize in Hazardous area and completions if required.





Our team is capable of handling your commissioning and startup needs in the areas of:

- Commissioning/Construction Management
- Commissioning/Construction Engineers
- Commissioning/Construction Technicians
- Commissioning Site Supervisors
- Commissioning Process Technician
- Hazardous area verification
- Hydrostatic testing
- Instrument calibration and testing



## Engineering Data Import Introduction

The CMSapp module bases its strategy formed from engineering data (in the form of engineering registers, indices, schedules etc). The relevant data is imported into the CMS to establish a master dataset tag list of the total objects listing for the work.

Engineering data can be registered directly into CMS, or be mass imported from the other systems/file formats. Import routines are best created at the beginning of a project to ensure a stable and consistent import format. CMS can integrate or receive information from all major engineering systems. Engineering departments utilizing external systems, for some or all of their registers, can normally provide export files in excel or .mdb format. The CMS program enables you via a user friendly interface, mass importation of engineering registers, to the CMS completion system. The engineering data import interface carries out the following activities automatically:

1. Copies fields from the import data to pre-mapped fields in CMS
2. Detects new, deleted and updated data
3. Provides the user with reports showing the changes
4. Tag validation, syntax, required fields
5. Mechanical Completion discrepancy reports available through the Query System
6. Does not allow duplicated

Additional CMSapp functionality allow users to record, manage and clear punch items, view Document Explorer by Commissioning Package, MC Package and Tag, query's the centralized reports system and do general query to handle Engineering Tag issues, Commissioning queries etc.

CMSapp Engineering module has a synergy and functionality for both direct registration of engineering data (into registers) and import routines from other systems/file formats. Included with comprehensive sets of reports, CMSapp provides a total solution for engineering database requirements.

## Query System Register

Cable schedule, Isometric Register, Equipment Register, Drawing Register, Equipment List, Valve Register, Flange Register, ITR Register, Vendor Interface, Line List, Instrument Index, Loop Registers, Hydrostatic Testing Register, Blinds Register, Responsibility Matrix Setup, Work pack Register.

## Mechanical Completion

### Introduction

The goal of the mechanical Completion (MC) is to verify and document that all equipment, facilities and system are built in accordance to specifications, design drawings, Rules and Regulations and other contract specific requirements by the project.

CMSapp (Completion Management System) has been developed to computerize this process and help to ensure a smooth and timely handover to Commissioning in accordance with the project plan.

The CMS module bases its strategy formed from engineering data (in the form of engineering registers, indices and schedules etc.). The relevant data is imported into the CMS to establish a master dataset tag list of the total objects listing for the work.

### Features

Comprehensive range of MC certificates that can be printed directly from the system – preprinted with tag numbers, tag descriptions etc. This is available for printing in bulk for any system / sub-system for either Mechanical Completion; Commissioning Package's or Work packs.

CMS uses barcode recognition of scanned certificates, automatically updating status.

A CMS development database for use of customer requirements for check sheets etc.

Punch list verification

Dynamic interface for linking tags, cables etc, Allowing batch update to the relevant MC certificate(s).

Powerful reporting system that produce wide variety of detailed and management report.

Client login for Web based report's real time for your project 24/7 at [www.cms-sg.com](http://www.cms-sg.com)

Archived documentation of your project for 3 years at [www.cms-sg.com](http://www.cms-sg.com)



## Commissioning Introduction

The overall goal of the Commissioning phase is to perform and document dynamic testing, functional testing etc, So that a complete system meets applicable Rules and Regulations and is ready for start-up and operation. CMSapp (Completion Management System) contains a Commissioning module that allows commissioning activities to be registered and managed in order to achieve a smooth and in timely handover of completed systems to operations.

CMSapp unique functionality and comprehensive reporting system eases the administration of commissioning activities and helps to ensure successful handover of commissioned systems to Operations and in accordance with project schedules.



CMSapp Commissioning module provides a uniform online system for the Commissioning Group that utilizes common data from the engineering registers. It also enables administration of additional field findings (punch items and close out) and operational modifications identified after system handover. Main features of this module:

Dynamic Commissioning, Commissioning Procedures, Activities and Pre-Requisites Vendor Procedures. Vendor Management.

Final handover documentation Ready for Operations



## Preservation Introduction

CMS preservation module allows the user to define the preservation requirements and the start date for preservation to commence. Based on the periodic intervals set for each preservation activity, CMS will generate a weekly report of preservation actions.

The CMS preservation module contains a user friendly interface for inputting additional checklists and vendor requirements.

The module contributes your project by ensuring preservation is in compliance with vendor/operations procedures and requirements.

### **CMScompletion Preservation System** includes:

Setup of Preservation Maintenance checklists, user friendly interface to edit checklist content, input of additional checklists and vendor requirements.



Activate items in the preservation program (i.e start preservation date). A direct access to engineering / mechanical completion data source makes it easy to include/add tags to the preservation program. Simply fill in data to the preservation checklist and assign personnel responsibility.

Produce the weekly preservation work lists in the “Weekly Work List” form; a 'common task' generates the list for the selected period. Reports showing the data can be printed directly from the form.

Produce / issue weekly and monthly preservation reports.

CMS Preservation offers several reports for weekly and monthly reporting. E.g Preservation Status by Commissioning Pack or Module, Preservation findings By Commissioning Pack or Module.

Project Preservation requirements can be imported and used if required.

Preservation procedures can be made within the CMS program.

# A COST EFFECTIVE ALTERNATIVE



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