AMADAS/CALSYS® Product Information

CALSYS Positioning

Introduction
In the past years, it has been proven that CALSYS deserves its own place in-between the tens or even hundreds of other applications that are used by our customers. Why is this? In other words, what does CALSYS have what others do not have?

Enterprise / Manufacturing Resource Planning
ERP/MRP systems are solutions that integrate and automate business practices associated with the operations and distribution aspects of a company, focussing on the efficiency of the internal production, distribution and financial processing. It controls and supports the logistics of procurement, production, sales and distribution.

The link between CALSYS and an ERP/MRP system involves exchange of information of routine and ad-hoc activities to be executed. The source of ad-hoc activities is CALSYS, where-as scheduled activities might be initiated from both CALSYS and the ERP/MRP system.

Laboratory Information Management System
A LIMS system, such as Sample Manager, LISA, QCheck, and many others, is responsible for registering all samples that come into the plant laboratory, and storing and processing the results of the lab analyses. The samples brought into the lab include the samples that are taken for analyser validation using the line sample validation method.
There is no overlap in functionality with CALSYS. Instead, there is a strong link between CALSYS and LIMS:

- ASTM-D3764 prescribes the procedure for taking the line sample and evaluation/comparing the analyser result against the laboratory result
- CALSYS needs the lab analysis results from comparison. For several customers, we have developed an interface between CALSYS and LIMS where routine sample schedules are transmitted to LIMS, and the lab analysis results are sent from LIMS to CALSYS.

**Maintenance Management System**

A MMS or CMMS is a system that schedules preventive maintenance work orders on the equipment. ‘Equipment’ or also called ‘assets’ cover a broad range and is much wider than the analysers and instrumentation that fall under the scope of CALSYS.

Obviously there is some overlap in functionality, after all the reason to use a CMMS system is quite similar to that for using CALSYS. On the other hand, this is also where CALSYS distinguishes itself compared to an Asset Management System. Having its focus on on-line analysers and gas detection systems, CALSYS provides dedicated fit-for-purpose solutions for maintaining these (often complex) systems, according to established ASTM standards, and reports performance on three areas: analytical performance, availability and maintainability.

**Plant Information Management System**

A PIMS system is all about gathering plant data into one common repository and transforming the ‘data into information’. A PIMS system produces large amounts of data and it enables users and companies to perform analyses on the data to facilitate management decisions and optimise plant operation.

There is no overlap between CALSYS and PIMS. A PIMS focuses on process data, while CALSYS registers the analyser validation data. In plants where lot of line samples are taken, it might be feasible to develop a link between CALSYS and PIMS to retrospectively retrieve the process value at the time the sample was taken.

**Analyser Management & Data Acquisition System**

The CALSYS/AMADAS is positioned at the level of LIMS, MMS and PIMS because of its unique features. It focuses on (often complex) analyser systems, also called Quality Measuring Instruments (QMI’S). Most plants have their own QMI- or analyser department comprising of high knowledgeable technicians and engineers, and often co-exists next to the E&I department.

The key features and unique selling points that are included in CALSYS are:

- Analyser validation according to established ASTM standards
- Report performance on three areas: analytical performance, availability and maintainability
- Vendor-independent. This is most likely the key distinction between CALSYS and the competition
- Vertical business support on all levels, starting from guidance on the shop floor to management reporting on the top floor

**Continuous Emission Monitoring System**

In refineries, chemical plants, LNG terminals, etc, analysers used for emission monitoring are treated similar to analysers used for other purposes. These analysers can already be integrated in the CALSYS/AMADAS software.
However, there are much more areas where emission monitoring is mandatory and where analysers are used for this purposes. The CALSYS/CEMS software system provides the functionality for the testing of a continuous emission monitoring system in compliance with CEN standard EN 15267-3. CEN developed EN 15267-3 to provide for the QAL1 and QAL3 requirements of EN 14181. Hence, to provide a means of demonstrating compliance with the uncertainty requirements specified in applicable EC Directives.

In accordance with EN 14181, the minimum functions that are supported by CALSYS/CEMS are:

- Definition of the calibration curve
- Variability calculations
- Uncertainty calculations
- Verification of Linearity
- Verification of Response Time
- Verification of zero and span
- Analyzer mimics
- CUSUM Graphics
- Data storage
- Reports