

# LabSystems Case Study: Dow Corning Limited - LIMS at Enterprise Level

**Company:**

Dow Corning Ltd, Barry, South Wales

**Industry Sector:**

Chemical

**Environment:**

R&D

**Software Used:**

SampleManager v3.2

**Platform:**

DEC Alpha

**Database:**

Oracle®

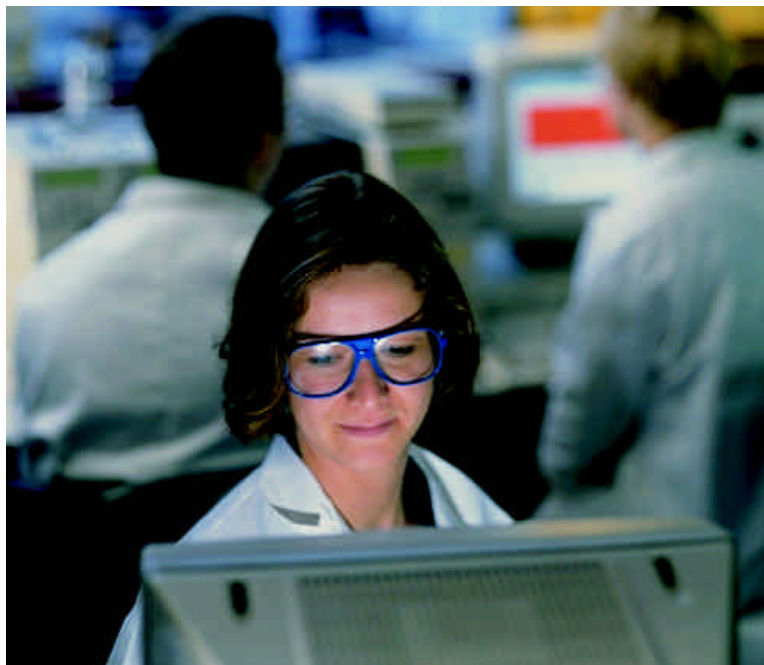
American-owned multinational Dow Corning Corporation is the global leader in silicone manufacturing. Its site at Barry, South Wales processes silicone fluids, rubbers and elastomers. The company's Quality Control operation supports the manufacturing plant, whilst Analytical Sciences supports Dow Corning Limited's R&D operation. Both QC and Analytical have their own laboratories, each with their own LIMS.

On Dow Corning Limited's Barry site, the company's LIMS systems are put to strenuous use with a year-round programme of testing which does not stop, 24 hours a day, 365 days a year.

The Barry site produces rubbers and silicones which are either delivered onwards to other Dow Corning Limited sites for further processing, or directly to customers for use in their manufacturing processes. Typically, the products can end up in as diverse applications as electronics, aerospace, transportation, industrial maintenance, processing aids, construction, paper printing & textiles, or medical and personal care.

As a global operation, Dow Corning Limited takes a global approach to its site management - it tries not to duplicate tasks across the world, by standardizing processes and equipment and sharing information. To do this, each division has its own hierarchy which ensures that somebody is responsible for decisions across all 33 of the company's manufacturing sites.

The company's LIMS has, as a consequence, become a case study in global standardization, under the charge of Bryan Sower, Senior Application Analyst based in Carrolton, Kentucky.



Dow Corning Limited has developed the rollout of an international LIMS programme, which will remove the legacy of systems which have been customized in-house and which cannot be upgraded to cater for new technology. Global standardization also allows resources to be centralized, with more straightforward reporting structures.

Dow Corning Limited has adopted Microsoft® Windows95 globally, and recently specified SampleManager, LabSystems' LIMS as the corporate standard for all sites. In Barry, the QC and Analytical laboratories have already been utilizing SampleManager systems since 1989, having selected them for their flexibility.

Quality Control has three different laboratories, each of which has a totally different function, but with similar procedures - samples are logged onto SampleManager, received in the laboratory, tested, returned to plant, where managers, engineers and operators can check for results.

In support of the manufacturing operation on site, the Basics and Finishing laboratory is most important to the process, because it runs tests on most of the products on site, from start to finish. Tests are run on everything from chlorosilanes and silicones through to polymers.

The Central R&D laboratory and the environmental laboratory (where all pollution, site waste control and other environmental tests are carried out) process thousands of samples per month. Here, analysis is carried out for I.P.C. compliance (Industrial Pollution Control) on soil and water samples collected locally, all results are reported back to the Environment Agency.

The Elastomers laboratory runs the physical tests on silicone rubber, with additional tests also run in the main QC laboratory. One of the hazards of the job is that silicone rubbers naturally cure very quickly, clogging up equipment in the laboratory as tests are being run. This means that there is a necessity for sample processing to run as smoothly and as quickly as possible.

SampleManager processes samples of fluids, solids, gases and powders daily. It manages the process, and also builds in traceability and control.

It is easy to track who logs the sample in, and barcodes are automatically issued and assigned to samples, with product information, even hazards, and test requirements already printed on.

Tracking samples through a large site is also vital for ISO 9001.



# Case Study: Dow Corning Limited

SampleManager makes reporting of processes easy. Reports can be printed automatically, managers and engineers can login and access data electronically, and results can be emailed if needed. This functionality ties in with Dow Corning Limited's drive to improve global communication - using email, phone, fax, video-conferencing and face-to-face to reduce replication of roles and workload worldwide.

SampleManager can highlight problems before they occur. By linking SampleManager to the OSI process information system, users can correlate information and build trends from sample data taken by online analysers.

The Barry site is in the process of migrating to upgrade SampleManager, in tandem with a roll-out of a new SAP Enterprise Resource Planning system which has been on trial in manufacturing. Whilst some laboratories are running SampleManager v3.2 for Windows on an ALPHA server, others are still running v2.63 on a DEC VAX.

In tandem, a new SM-IDI link has been established and trialled in Dow Corning Limited's Elastomers Laboratory, to transfer data between the SampleManager and SAP.

Caroline Lobban, QC Lab Supervisor, explains, "Organizations tend to believe that SAP is the answer to all problems, and indeed it can probably do some things."

"Using SampleManager compliments SAP, and with the tie-in available through SM-IDI, we can just pass data straight through, which would not be possible without the LIMS."

Systems integration is a necessity in Dow Corning Limited, where the ability to support links to other software and systems is a key requirement. Standard software such as SAP and SampleManager make this a reality worldwide. It also makes it simpler to offer maintenance and support to each site, and to control otherwise escalating costs, by ensuring that each site's chain of reporting is central and upwards.



Dave Harris, Quality Support Specialist, explains, "All laboratory staff come to me if they have any queries. With standard software and systems, which are the same as those in America, I can report back and discover that a similar difficulty has been encountered and solved elsewhere, thus saving the organization - and me personally - time."

The objective of the LIMS migration programme is to enhance further the corporation's integration. Dave Harris continues, "In the Basics and Finishings Laboratory, LabSystems' Multichrom system is used for chromatographic data analysis. 32 channels link their results directly into SampleManager. In addition, Yukon is used for instrument integration directly to SampleManager."

"These both save operators an enormous amount of time because they are automatic: "

- "with high sample loading, it saves a chemist typing in each sample from a printout, and immediately eradicates manual typing errors"
- "a large amount of instrument configuration data can be automatically transferred in seconds"

"Furthermore, Yukon (LabSystems' instrument integration tool) automatically buffers data up if either SampleManager or the network goes down, and then when they start up again it then downloads the stored data automatically."

Dow Corning Limited is already at the forefront of laboratory technology, and also constantly striving to get ahead. SampleManager allows the site to be faster at sample logging and processing, as well as being more accurate and confident about its traceability of tests over a number of years.

The QC laboratory does not just carry out routine testing. It also offers method developing, troubleshooting and plant support. Furthermore, as part of its central position to Dow Corning Limited's European operations, the Barry site also monitors all of Dow Corning Limited's European industrial hygiene testing, including from sites in Belgium and Germany.

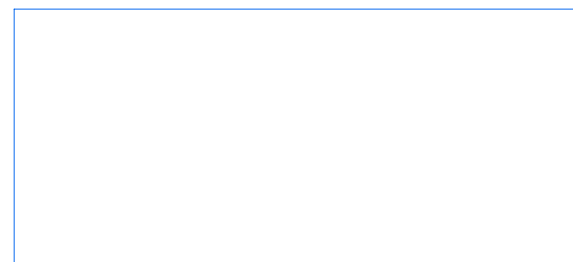
Dow Corning Limited have shown that SampleManager's reliability suits their daily bombardment of samples, and is flexible enough to meet the corporation's investment into technology and integration into the future.

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