



BASF

BASF Streamlines Plant Safety Processes Across Global Operations with Standardized Risk Assessments

BASF is the world's largest chemical producer with 2014 sales approaching €75 billion. Its operating principal is to combine economic success with environmental protection and social responsibility. As a result, this German-based company is highly focused on the need for its operations around the world to follow strict, well-defined processes that ensure plant and worker safety as well as protecting nearby communities and ecosystems.¹

A few years ago, as part of its commitment to continuous improvement, BASF embarked on a project to streamline the documentation and management of risks associated with Safety, Health & Environment (SHE). Company leaders realized that there was room for improvement in their current systems and processes. Plants were using Word, Excel or specialized desktop software to document process hazards. This led to inconsistencies in documentation across the global organization – with staff members using different languages for classification and different methods for HAZOP assessments and data collection. This lack of consistency meant that BASF managers had limited visibility across facilities and were hindered in trying to do comparisons of issues and safeguards. Any comparisons had to be done 'intellectually', by experienced staff reviewing documents that were up to 300 pages long, which was inefficient, time consuming and labor intensive.

"We needed to find a way to create a disciplined methodology for our staff worldwide, so they could use a unified, standardized, and harmonized process for their daily work and ensure that action items were easier to track," said Claus Witte, Senior Process Safety Manager at BASF. Company leaders decided to tackle this challenge by taking a holistic approach. They chose to implement a global, web-based, risk software solution – Sphera® Stature®.

Starting Strong with Training and Teamwork

Even in its early stages, BASF's project has already achieved impressive results. To provide managers with greater visibility across the company's global operations, the company needed its widely disbursed workforce to use a uniform process hazard analysis (PHA) template. Within the first nine months of implementation, BASF successfully trained 1,600 staff members across Europe, Asia, and the Americas to use the Stature system. Staffs in all locations now enter data into a single template that uses standardized language and measurements.

CHALLENGE

- Inconsistent implementation of a well defined process to manage plant risks
- Inconsistent safety process documentation across the global organization
- Inefficient processes to extract, prioritize and track action items related to Process Hazard Assessments
- Lack of visibility across the global organization limited the ability to improve safety processes

SOLUTION

Risk Assessment

- Process Hazard Analysis (PHA)
- Action item tracking

RESULTS

- Improved consistency in following the well-defined risk management process
- Developed and implemented a global standard template to document process safety risks:
 - Trained 1,600 staff within 9 months
 - Created 1000s of risk assessments
- Increased efficiency in managing and prioritizing action items
- Gained visibility on site risk profiles and status of items to prioritize work load
- Streamlined compliance reporting processes delivering greater transparency and auditability
- Improved on-boarding process for newly acquired companies and simplified knowledge transfer

BASF Streamlines Plant Safety Processes Worldwide

"I believe one of the successes of the adoption rate for this project was that it was setup globally from Day One and that it was supported by the Steering Committee board", said Witte, "I think another important element was the great team that headed the project. The team was selected in a way that we had different work streams, and each work stream was headed by a colleague from a different region or major site. They had an opportunity to contribute to the creation of relevant templates, they had a chance to shape the future a little bit. That made a big difference. Effective communication, a good team and a global setup were what made it successful".

Gaining Visibility into Status and Actions

If you can see something, you can measure it and improve it. With a few thousand risk studies now in the system, BASF is starting to build a central risk knowledge base and gain better visibility across the organization. Managers can now see the status of items and prioritize work load for the next few years.

"The system gives you a good idea where you stand in a specific area in a specific plant; what workload you have to expect, due dates for revalidations and so on," said Witte. "It's now easy to drill down to a certain level in the plant and see what is the status at that part of the plant or how many high risks do they have at that site. That is a major benefit and we are just learning. We see big possibilities going forward."

In addition, BASF is now able to more effectively manage action items. "Previously, because we were working with Word, it wasn't easy to extract all of the open issues out of a document", stated Witte, "This was always painful work; you had to copy it to Excel and prepare it for further analysis. Now we use the Stature workflow engine and we can easily see and manage action items coming out of clean sheet reviews. It also gives us the opportunity to analyze our results in relation to some KPIs, which is very valuable for management."

Enabling Benchmarking, Compliance, Growth

Every five years, BASF revalidates whether it has captured all risk factors for a given process in a plant process safety concept, and every 10 years a detailed implementation check by review of detailed plant documents is performed. BASF previously used a single consolidated Excel list of all steps necessary for revalidation at each production site but the process was complex and cumbersome. With Stature, the BASF team has been able to simplify and improve the accuracy of the revalidation process. The system facilitates the revalidation process, setting all necessary dates and giving BASF staff an overview of plans and dates. They now

know in advance what resources they will need in the coming year so they can allocate appropriately.

BASF made further efficiency gains in the ways that it meets SHE regulatory compliance requirements. "Compliance obligations vary depending on the region a plant operates." Witte explained, "For some of our plants in the US we have some very detailed reports that we need to produce and provide to the authorities. Before, staff had to extract data from Word into a database, then correct and reformat it prior to producing the final report for the authorities. Now with Stature, this is much easier and more efficient. We can quickly extract information such as 'How many open items', 'How many are in process', 'How many A, B or C risks' These kinds of KPIs are important and now at our fingertips. It also makes audits much easier, now we have all the steps documented and the history of the related approvals all within the system."

Over the past decade, BASF has made numerous acquisitions. Now, when it on-boards a new company, the learning curve is reduced in terms of process safety procedures. New colleagues can now review existing process safety templates for similar plants and very quickly understand the structure and workflows of BASF requirements without having to manually peruse hundreds of pages of guidelines.

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Claus Witte, Senior Consultant,
Global Process Safety, BASF

Driving Continuous Improvement

"To move forward you need to know where you stand," said Witte, "Stature now is starting to provide that visibility for us, now I believe we have a chance to really understand how we can streamline our processes. When documents are on everyone's individual desktops, you can never be sure that the process is followed consistently. Now, the global template supports everyone involved in the process to follow the desired specific procedure. As the number of studies increase we can start to look for ways to reduce complexity; we can adjust and improve our safety processes. Ultimately improve the business. We have this chance now."

1 www.BASF.com