Cristal Shines by Automating MRO Master Data to Promote Operational Excellence Enterprise-wide

With headquarters in Jeddah, Saudi Arabia, Cristal is the world's second-largest producer of titanium dioxide and a top producer of titanium chemicals. This global leader operates seven manufacturing plants, five mine sites and three research and development centers on five continents. The company employs nearly 4,500 people and generated $2.1 billion in revenue in 2013.[1] Today, Cristal is pursuing an aggressive growth strategy by expanding into new markets and geographies, building more facilities, and acquiring companies as necessary.

To execute on this bold strategy, Cristal's leadership team promotes operational excellence throughout their facilities. Recently, they recognized that they needed to strengthen the company's Maintenance, Repair and Operations (MRO) inventory system so replacement parts would always be available when needed to keep equipment running smoothly and ensure compliance with safety policies. Front-line managers were struggling to achieve these goals without an integrated, best-in-class parts catalog. The company tried engaging a third-party contractor to cleanse its database but, in spite of investing resources and money on the project, it soon became apparent that data cleansing would not prevent master data issues from recurring.

Challenge

- Promote operational excellence and growth by consolidating and upgrading parts catalog
- Strengthen governance of parts inventory data with improved procurement workflow to boost efficiency and comply with safety policies

Solution

IHS Asset Performance Solution™

- MRO Intelligence

Results

- Implemented best-in-class MRO solution to manage 125,000+ replacement parts worldwide
- Eliminated the need for hiring contractors to conduct repeated low value data cleansing processes thereby avoiding cost
- Boosted productivity by accelerating searches of the company's parts catalog database from several minutes to seconds – almost instantly
- Streamlined purchase request workflows so orders can be approved in hours/days instead of weeks/months
- Achieved cost savings by using optimized parts data to track, consolidate and share inventory, eliminating the need to purchase and maintain excess parts, or discard or resell at a loss, and also allows Procurement to negotiate better rates with vendors
- Proved new MRO solution's ability to support corporate strategy during recent growth projects

Cristal's Global Procurement group knew that the company's manual parts catalog management process was insufficient to manage their worldwide inventory of more than 125,000 parts so they sought an automated solution. They carefully evaluated vendors and then chose IHS Struxure™, web-based data governance software for developing and maintaining MRO master catalog data, with IHS Standard Modifier Dictionary™ (SMD), which enables consistent naming conventions for MRO items.

"IHS fit our criteria for a vendor with years of MRO-focused experience. When we saw that IHS Struxure would enable us to do everything we wanted to do electronically – and that it integrates with SAP ERP – the decision was a no-brainer," said Jeffrey Cervi, Cristal's Global Procurement Manager.

Satisfying Site-Specific Needs

Cristal's Global Procurement team allows each site to build its own procurement request and approval workflows. Once approved, the request is directed to the Central Cataloging group for a final review and approval before the part is added to the catalog. "The flexibility of IHS Struxure supported our need to build a basic workflow and tailoring it to each site's specific needs has been very valuable," continued Cervi.

Any Cristal employee can ask to change or add a new part to inventory by going through the appropriate workflow of approvals. Today, about 250 employees at more than 15 Cristal facilities do so using the IHS solution.

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1 *http://www.cristal.com/Corporate%20Fact%20Sheet/Corp_Sheet_EN.pdf*

Cristal Automates MRO Master Data Management

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Enabling Master Data Governance

To drive both efficiency and safety, employees must be able to identify spare parts, know which parts are in stock and which ones must be ordered. Implementing the MRO Intelligence solution from IHS helped Cristal two-fold, by enabling them to establish an integrated MRO master catalog through cleansing, standardizing, and optimizing parts data. Once the catalog was optimized, Cristal strengthened its master data governance by implementing the necessary workflows and controls in IHS Struxure to ensure employees continue to have accurate spare part information. This allows Cristal to keep its assets operating efficiently and subsequently comply more easily with relevant safety regulations.

According to Cervi, communication between IHS Struxure and SAP ERP – Cristal's system of record – is virtually seamless. Once a transaction is completed in IHS Struxure, the data automatically uploads to SAP ERP. "SAP ERP is powerful, but it can also be unwieldy. With IHS Struxure, we can easily maintain and add parts to our master data catalog. In fact, we use it to promote good corporate governance," said Cervi.

Accelerating Access and Purchase Cycles

In the past, Cristal employees had to spend several minutes each time they looked for parts information, conducting multiple searches into their ERP system. Then to request that a part be added to inventory, they had to fill out a paper form, which was circulated through the approval process. While requests for critical parts were quickly fulfilled, requests for less-critical parts sometimes took weeks or months to be processed. Forms were at risk of being lost or misplaced, causing further delays and wasted effort.

Adding to the problem were multiple data catalogs. Each site managed its own master data catalog entries into SAP ERP. This led to data duplication, inconsistencies and omissions. Problems with master data contributed to hassles when it came time to source or procure parts. "There was lots of back and forth between employee who needed the part and the vendor to clarify what was ordered," explained Cervi.

Now, however, employees at Cristal facilities around the world can check IHS Struxure and see in a few seconds if a part is in stock. The company's new electronic approval process gives the Global Procurement team visibility into all parts requests. As a result, they can move requests quickly through the approval process in a few days or even hours.

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> CRISTAL Jeffrey Cervi, Global Procurement Manager

"Because we can now capture all relevant part information – including the manufacturer, potential vendors and historic costs – we can greatly reduce the time to fulfill purchase orders," continued Cervi.

Optimizing Inventory Saves Money

Cristal now sees the potential for generating cost savings by leveraging its new MRO solution. In the past, lack of visibility into its parts catalog resulted in new parts being purchased unnecessarily – or at a higher cost – and obsolete parts being discarded or resold at a significantly lower price than their original value.

With IHS SMD, Cristal's employees can describe parts efficiently and standardize those descriptions. In turn, the Central Cataloging Group can quickly and easily identify parts in the database. Procurement can confirm that a part is out of stock before another is ordered. And, rather than sell off parts deemed obsolete at one site and incur a loss, managers can now see if the same parts are still being used at other sites.

"We no longer add parts that already exist in another location. We also find new opportunities to consolidate inventory and negotiate better rates on a global basis with vendors by identifying usage of common parts between sites. Sharing information across sites helps us ensure that we don't lose the value of our inventory or run into stock-out situations," observed Cervi.

Supporting Growth Today and Tomorrow

Recently, Cristal added a further 3,000+ additional parts as part of a growth project in Saudi Arabia. Cristal's MRO system helped support a smooth transition process.

"With IHS Struxure and IHS SMD, we can quickly specify the equipment that we want to put in these facilities and make sure that we have the appropriate spare parts set up," said Cervi. "While we have only deployed in English, we plan to deploy additional languages - allowing us to easily expand our use. We appreciate that IHS is continually evolving its tools based on user feedback. We expect these tools will support our needs far into the future."

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