Learn how Mesa Labs reduced the time taken to process a change order from two weeks to two days while integrating ERP with PLM

Summary

Conducting business the same way was no longer a viable option for Mesa Labs, a leading manufacturer of high-quality process validation and monitoring instruments and consumables. Mesa labs was running into difficulty when looking to scale its business as a result of recent acquisitions across the US. The acquired companies all used different internal systems and processes. Mesa Labs needed a new approach to tackle regulatory compliance with enhanced bills of material (BOM) and change order control.

In October 2015, Mesa labs introduced Autodesk® Fusion Lifecycle PLM integrated with NetSuite® ERP to manage document and change order control more efficiently. Both systems operate in the Cloud and made use of Jitterbit software integration to break down communication barriers between normally-siloed functions. Today, Mesa Labs has eliminated manual procedures, significantly reducing the time and cost to process a change order from two weeks to two days.

Challenges

Mesa Labs realized that its legacy software systems could no longer support a growing business.

"Our main problem was that our two key business systems weren't integrated," said Gary Alcala, Senior Director of Procurement. "We used an old ERP system to manage our BOM, and a separate system for document management. As a result, it was possible for the two systems to be out of sync. We might have documentation in one system at Revision B, and the BOM in the ERP system at Revision A."

Mesa labs relied on a manual system to manage the change control process. "We used 'red folders' containing all the change documents, and these were sent to the appropriate departments for approval. We also had to rely on timely updates to the ERP system. This led to ordering materials at the wrong revision level. It was also possible to have the same part number in different facilities for different items," said Alcala.

For any company regulated by the FDA and desiring to maintain ISO compliance, strict change control and adherence to documented procedures is paramount. "We had a couple of audits that were a cause for concern for FDA and ISO auditors. Management recognized that we needed to address this issue immediately."

Mesa Lab's real-time product/process temperature monitoring MPRF data loggers and repeaters

MesaLabs

Industry:
Industrial, pharmaceutical, medical and food processing

Products:
Quality control instruments and consumables

Employees:
285

Number of Locations:
4 United States, 1 International

Headquarters:
Lakewood, Colorado

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GARY ALCALA,
SENIOR DIRECTOR OF PROCUREMENT

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Customer Success Story:
Mesa Laboratories, Inc.

Time for a Change

Mesa Labs undertook a six-month implementation process. "Mesa Labs decided that the first step in addressing these problems was to replace its ERP system. Alcala was part of a 4 person team that led the search, after a comprehensive evaluation, the company selected NetSuite ERP. "We formed a multi-disciplined team representing different areas of the business, and evaluated six ERP systems before choosing NetSuite. However, management recognized that ERP on its own would not address and solve all of our problems. It was decided that prior to implementing NetSuite, we should acquire a PLM system."

A key requirement was that the PLM system must integrate with NetSuite ERP. "At Mesa Labs, we have a lot of experience with PLM systems gained through working at other companies," said Alcala. "We were looking for a system that facilitated communication between departments. We wanted to manage the change order process without manual intervention. In addition, the system had to be easy to use and maintain. In the end, we selected Autodesk's PLM system, Fusion Lifecycle. Autodesk has a strategic alliance with NetSuite and they recommended Fusion Lifecycle. We chose Fusion Lifecycle because it's Cloud-based, flexible, and has proven integration to NetSuite ERP."

Implementation

Mesa Labs undertook a six-month implementation process. "On Autodesk's recommendation, we hired Razorleaf, a local implementation consulting company," said Alcala. "The first step involved Razorleaf, mapping out our existing processes. This was invaluable in order that they could understand our business and our frustrations. Next, Razorleaf, mapped out a new work flow in Fusion Lifecycle. We documented our procedures and trained the users over a three-week period. In addition, we brought in an outside consultant to validate the system."

Mesa Labs transferred the BOMs and documentation from their old systems into Fusion Lifecycle. "After spending three weeks cleaning up the data, we went live with Fusion Lifecycle. We ran both systems in parallel for two months. Following this, we stopped using the 'red folders' completely. The reaction from the users has been very positive. A key factor was having a 'super user', a go-to person that became a Fusion Lifecycle expert."

While Fusion Lifecycle on its own produced significant benefits, integration to NetSuite ERP was always the goal. "We devoted considerable time and resources to validating and cleaning our data—ensuring the BOM structures were correct. We used Jitterbit, an enterprise integration tool to manage the data transfer," said Alcala.

Fusion Lifecycle integrated with NetSuite ERP is now operational in four facilities across the USA with over 100 users. "Everything is working well, and we are live on both systems in our Lakewood, Colorado; Bozeman, Montana; Omaha, Nebraska; and Butler, New Jersey facilities" said Alcala.

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Mesa Lab's MicroBath and Reference Thermometer products used for industrial temperature calibration

Value of Cloud Solutions

To date, one of the biggest benefits Mesa Labs have received is the dramatic reduction in lead time to process a change order. According to Alcala, it used to take two weeks to process a change. "Previously, it was a large undertaking to get everyone to understand and approve a change order. Also, once the change was approved, we had to ensure it was reflected in both of our legacy systems. Today, with Fusion Lifecycle, the time taken to process a change order has been dramatically reduced from two weeks to two days. If necessary, we can push it through in two hours. With 15 to 35 change orders a week, that translates into a significant saving."

Mesa Labs has taken the opportunity to review and improve its change order process. "Fusion Lifecycle was the catalyst and gave us the opportunity to implement a tiered approval process. First, a change order is created by an engineer or buyer. Second, the change order is automatically routed to the relevant departments for approval. Finally, there is a management review to approve the cost associated with the change," said Alcala.

The fact that Fusion Lifecycle is Cloud-based is another factor that has improved communication between departments and sped up the entire engineering change order process. Alcala explained: "Fusion Lifecycle is available on a Smartphone or Tablet. Users now have the ability to access the system anywhere, with any device. No longer are there delays to the approval process just because someone is travelling or out of the office."

Alcala is confident that with Fusion Lifecycle and NetSuite ERP, many of the problems the company had in the past with regulatory agencies and customers will have been eliminated. "We've had a couple of ISO audits, and the auditor was extremely happy with our change control system. Although we haven't had an FDA audit since we implemented the new systems, we are expecting a similar outcome."

Another key benefit includes having ERP and PLM synced – "Once a BOM is approved for release, an auto process update syncs the details with NetSuite, meaning we don't have to remember to update something in the system". Says Alcala, "this reduces versioning errors that used to occur 10% of the time and take 100's of hours to resolve" (Mesa on average updates BOMs 3 to 5 times per week, which uncaps the ability to address increasing customer customization requirements).

Future Plans

During the next 12 months, Mesa Labs will move ahead with phase two of its plan to expand the use of Fusion Lifecycle into other areas of the company. "We are under some pressure to continue the success we've had with Fusion Lifecycle during phase one. Our plan is to manage the following activities within Fusion Lifecycle. They include Corrective Action, Customer Complaints, Documentation, Training, Supplier Management, and Project Management. The next area we will address is Supplier Management. Once a supplier is approved in Fusion Lifecycle, it will automatically update NetSuite ERP. This will ensure that we are buying only from an approved supplier," said Alcala.

Another area where Mesa Labs anticipates improvements is in Corrective Action. "By linking all of our corrective actions with our quality systems, we can make sure that any error gets communicated across the company. We want to ensure that different facilities don't make the same mistakes. All of these capabilities will save time, and ensure consistency throughout the company," said Alcala.

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Mesa Lab's Omni FT provides a flexible, low cost solution for EPA air pollutant monitoring studies

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FUSION LIFECYCLE**

About Mesa Labs

Mesa Laboratories, Inc. is a growing, highly profitable public company based in Denver, Colorado. Mesa develops, manufactures, and markets high-quality process validation and monitoring instruments, and consumables. From Fortune 500 companies to high tech start-ups, Mesa Lab's products are used to assure product quality, control manufacturing processes, and to solve problems in niche markets in healthcare, industrial, pharmaceutical, medical, and food processing applications. Mesa Lab's products are characterized by technical excellence and superior industry reputations.

Learn more at www.mesalabs.com

About Autodesk

Autodesk's product innovation platform brings together a set of connected design, manufacturing, and IoT tools in a single data-centered solution. This cloud-based platform, Fusion, supports the new ways that products are designed, made, and used while giving you access to tools for the top manufacturing trends.

Learn more at www.autodeskfusionlifecycle.com

About NetSuite

In 1998, NetSuite pioneered the Cloud Computing revolution, establishing the world's first company dedicated to delivering business applications over the Internet. Today, NetSuite provides a suite of cloud-based financials / Enterprise Resource Planning (ERP) and omnichannel commerce software that runs the business of more than 30,000 companies, organizations, and subsidiaries in more than 100 countries.

Learn more at www.netsuite.com

Key Takeaways:

- Mesa Labs needed a new approach to tackle regulatory compliance with enhanced bills of material (BOM) and change order

- Legacy ERP and documents management systems weren't integrated and were out of sync

- A manual folder system was used between departments to track change documents and approvals

- Current processes made FDA and ISO audits challenging for team

- First order of business was to replace the legacy ERP system, NetSuite ERP was selected

- Next was to acquire a PLM system that had proven integration with NetSuite ERP, which lead them to Autodesk's Fusion Lifecycle

- Implementation of both cloud-based products was successful in solving Mesa Labs' individually defined objectives and the integration of the product provide significant benefits

- With PLM and ERP systems synced, once a BOM is approved for release, an auto process update syncs the details between both systems

- Given teams can access PLM on their smartphone or tablet, there are no longer delays in the approval process which has sped up the entire engineering change order process

- ISO auditor was extremely pleased with new change control system managed in PLM

- Next steps for Mesa Labs includes expanding PLM to address Supplier Management. Once a supplier is approved in Fusion Lifecycle, it will automatically update NetSuite ERP to ensure purchases are from an approved supplier

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