

Implementing Blockchain in Aircraft Engine MRO

Background

A leading Japanese aircraft engine maintenance, repair, and overhaul (MRO) company was facing challenges in terms of B2B process inefficiencies and high turnaround times (TATs) in their operations.

They were looking for ways to improve their MRO business performance metrics and increase customer satisfaction with digital transformation.

In this case study you will learn how Block Aero helped a leading Japanese MRO:

- ✓ Increase Traceability
- ✓ Automate Processes
- ✓ Improve Efficiency

Problem

- > Inefficiencies in the MRO process resulted in high TATs and increased costs for the company and its customers. For example, it often took many days for a batch of orders to complete a quotation approval process.
- > Lack of transparency in the supply chain and limited visibility into on-time delivery performance and parts availability. It was difficult to differentiate which orders needed to receive closer attention out of the thousands of issues.
- > Difficulty in tracking and managing certifications, technical data, logistics status, and many types of documentation throughout the repair order transaction lifecycle. It was inefficient, unpredictable, and insecure to rely on emails as a “database” to organize and back up this important information.

Solution

The company decided to implement Block Aero's MRO Manager in their MRO operations to address these challenges.

Reason 1: Increased Traceability

By using Block Aero, the company was able to create a tamper-proof and securely accessible record of all transactions and operations.



Safety



Efficiency



Collaboration

This allowed for better visibility into vendor performance, customer requests and approvals, and the status of each repair order in the context of a specific engine overhaul work package. This increased supply-chain visibility helped improve trust and collaboration with customers.

Exhibit A: Block Aero MRO Manager displays the work in process (WIP) for three engines of the same model type with 24 ROs still in the shop and 21 ROs with critical status.

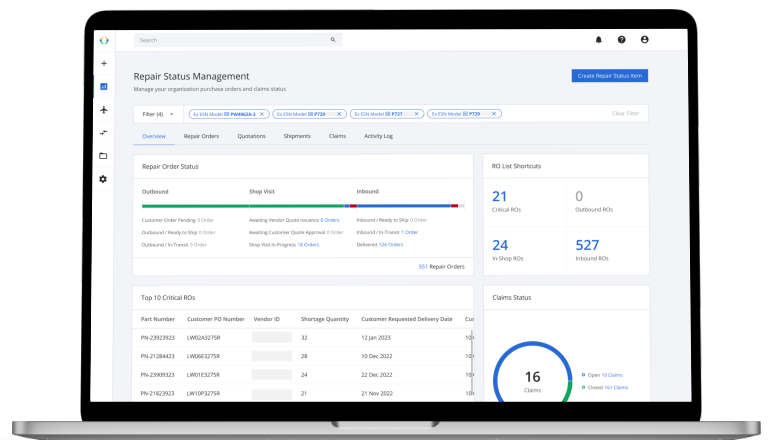


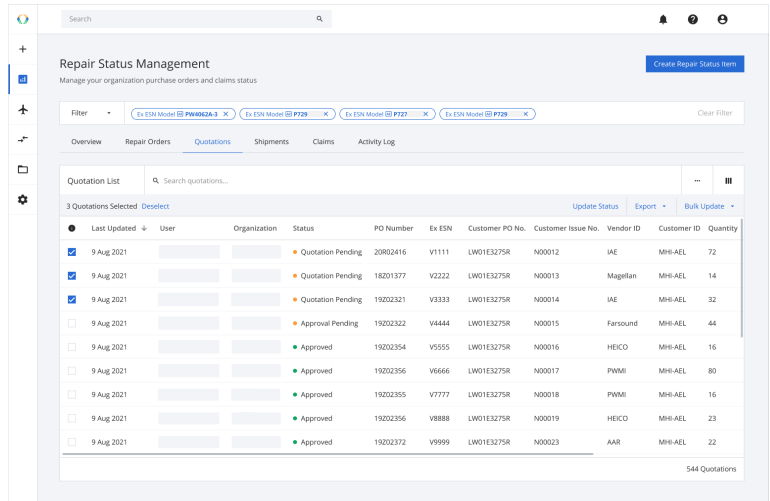
Exhibit A

Reason 2: Automated Processes

The company was able to automate various processes, such as transferring repair work scope data, requesting delivery schedule changes, identifying problematic orders, and updating logistics status.

By using smart contracts on Block Aero, the company was able to automate the sharing and updating of repair order data with its customer, which reduced the need for manual processes and reduced the risk of transfer errors.

Exhibit B: Block Aero MRO Manager helps the MRO and the Customer to jointly view and update a secure distributed ledger containing hundreds of quotation submissions, reviews, and approvals.



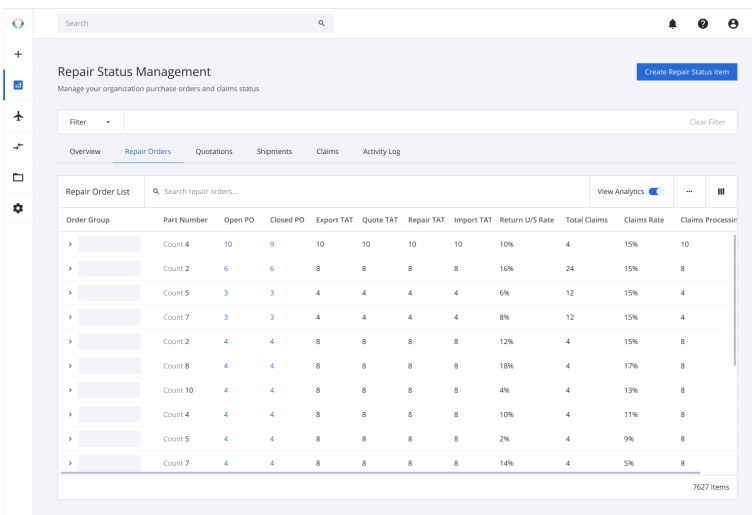
The screenshot displays the 'Repair Status Management' interface. At the top, there's a search bar and a 'Create Repair Status Item' button. Below that, a filter bar shows several filters for ESN Model and P/N. The main content area is titled 'Quotation List' and contains a table with columns: Last Updated, User, Organization, Status, PO Number, Ex ESN, Customer PO No., Customer Issue No., Vendor ID, Customer ID, and Quantity. The table lists various quotations with their respective statuses (e.g., Quotation Pending, Approval Pending, Approved) and dates (all 9 Aug 2021). At the bottom right of the table, it indicates '544 Quotations'.

Exhibit B

- ✓ Standardize KPI Reporting
- ✓ Accelerate Workflow Completion
- ✓ Reduce the Risk of Disputes

Reason 3: Improved Efficiency

By implementing Block Aero, the company was able to reduce the TATs and improve the overall efficiency of their internal and customer facing operations.



The screenshot displays the 'Repair Status Management' interface. At the top, there's a search bar and a 'Create Repair Status Item' button. Below that, a filter bar is visible. The main content area is titled 'Repair Order List' and contains a table with columns: Order Group, Part Number, Open PO, Closed PO, Export TAT, Quote TAT, Repair TAT, Import TAT, Return US Rate, Total Claims, Claims Rate, and Claims Processed. The table lists various repair orders with their respective metrics. At the bottom right of the table, it indicates '7627 Items'.

The increased efficiency and automation of processes helped to streamline operations and reduce the need for manual intervention - replacing dozens of emails per user each day with real-time status updates 24/7.

Furthermore, by having a mutually agreed, standardized, and easily exportable set of repair order performance data on Block Aero, the customer of the MRO found value in making daily analysis using the on-chain data newly available at their fingertips.

Outcomes

These transformations led to **cost savings** and improved **customer satisfaction**.

Results

- › Administrative process TATs reduced by at least 50% on every order.
- › Reduced workload on employees by eliminating the burden of receiving customer requests over email and then updating a hard-to-maintain spreadsheet.
- › Company and their customer were able to use the improved data quality for their MRO metrics available on Block Aero to conduct better analysis using the new tools.
- › Company succeeded in expanding revenue generating business to additional engine programs of their customer and seamlessly transitioned to supporting the new business with the Block Aero platform in a more profitable way.
- › The product introduction was so successful, that the Industrial Gas Turbine business unit requested to adopt Block Aero as a solution for order management in their aero-derivate turbine MRO operations.

Conclusion

The implementation of Block Aero MRO Manager in the company's aircraft engine MRO operations helped drive efficiencies and lower TATs by digitizing the supply-chain, automating processes, and improving overall efficiency.

This led to significant cost savings, high customer satisfaction, and drove employee engagement in digital transformation across the entire organization.

- Next Steps

Does Block Aero sound like a great fit for your MRO business?

We'd like to get on a call with you to give you a demo of this product. You can [book a call here](#) – or if there is someone else in your company who this would be helpful for, please feel free to introduce us.

- Contact Us



www.block.aero



support@block.aero



Block Aero Technologies