

# Global Port Operator Boosts Efficiency by 40% with INTECH's Automated Solution



## Summary

The client is a global port and terminal operations leader, known for managing high-traffic logistics hubs. They faced growing operational complexity and needed to accelerate approvals, reduce manual errors, and gain real-time visibility across processes.

INTECH delivered a customized low-code automation solution that integrated seamlessly into the client's platform. As a result, the client achieved faster approvals, improved data accuracy, and a 40% increase in operational efficiency.

## About the Client

The client is a multinational logistics powerhouse operating over 57 port terminals across 40+ countries. Specializing in container handling, shipping services, and managing free trade zones, the client plays a vital role in the global supply chain. Handling millions of containers annually, they facilitate critical infrastructure that supports international trade.

Even as an industry leader, the client still relied on manual systems, which caused inefficiencies. They turned to INTECH for help with a complete digital transformation.

## Client Challenges: Manual Processes Slowing a Global Operation

Despite being a global leader in port and terminal operations, the client had a set of operational challenges rooted in manual, paper-based systems.

Key challenges included:

### Delays in vessel and cargo processing

Manual procedures for vessel approvals, cargo clearance, and gate pass issuance led to long wait times and procedural backlogs. Critical information is often passed through multiple hands, slowing down turnaround times, affecting port throughput, and impacting customer satisfaction.

### High error rates in documentation

Reliance on handwritten forms and disconnected spreadsheets resulted in frequent data entry mistakes, missing documentation, and duplicated efforts. These inaccuracies created compliance risks with customs and maritime authorities and often required time-consuming correction processes.

### Security vulnerabilities

Fragmented access control and inconsistent paper-based logging of personnel movement left security teams with limited oversight. In high-traffic port environments, this lack of visibility increased exposure to unauthorized access, theft, and operational breaches.

### Staff overload and inefficiency

Employees spent a significant portion of their time managing repetitive paperwork, chasing approvals, and reconciling conflicting records. This reduced overall productivity and led to staff fatigue and higher error rates across teams.

### Lack of real-time visibility

The absence of centralized, digital systems made it nearly impossible for leadership to monitor operations in real time. Executives relied on lagging reports and fragmented updates, hindering strategic decision-making.

To tackle these challenges, the client needed a scalable digital solution to streamline operations and re-establish control.

## INTECH's Solution: Automation to Modernize Port Operations

INTECH delivered a scalable low-code automation solution to meet the demands of large-scale ports. We focused on workflows to bring speed, accuracy, and control to the operations.

Key features of the solution include:

### Digitization of Core Operational Workflows

- ▶ INTECH digitized paper-based processes for vessel registration, gate pass issuance, and cargo documentation. The team mapped each workflow, standardized procedures, and implemented automation to drive accuracy and consistency across terminals.

### Rule-Based Approval Automation

- ▶ INTECH designed custom approval flows based on the client's operational logic. The automated routing minimized manual interventions, removed bottlenecks, and ensured the timely processing of critical approvals.

### Centralized Dashboard

- ▶ INTECH deployed a unified dashboard to consolidate data from all automated workflows. The platform delivers real-time visibility into process statuses, pending actions, and key performance indicators, enabling faster, more informed decisions.

### Digitized Access Control and Audit Trail

- ▶ INTECH replaced manual access logs with digital, time-stamped records. This strengthened transparency, improved security oversight, and supported compliance with internal controls and regulatory requirements.

By automating core functions, INTECH helped the client build a scalable digital foundation, leading to long-term resilience and operational excellence.

## Implementation Process

INTECH followed a structured approach to ensure a smooth deployment, addressing each phase with precision:

- 1 Assessment & Planning**  
We started by analyzing the client's existing workflows and infrastructure. Through stakeholder interviews and on-ground observation, the team identified critical inefficiencies. This step helped prioritize automation targets with the highest operational impact.
- 2 User-Centric Design**  
INTECH created a user-friendly interface tailored to the specific needs of port staff. This ensured quick adoption and ease of use, making the system intuitive and efficient for daily operations.
- 3 System Integration**  
INTECH integrated the automation layer directly with the client's legacy platforms and terminal systems. This integration minimized downtime, ensuring seamless functionality.
- 4 Testing & Optimization**  
The team performed end-to-end testing to validate performance, data accuracy, and real-time responsiveness. Feedback was incorporated to fine-tune the system for optimal performance.
- 5 Phased Rollout**  
We deployed the solution in phases, beginning with high-priority operational areas. This approach reduced implementation risk, ensured stability, and allowed for incremental adjustments.

This structured approach led to the successful transformation of the client's operations, which is evident in the key outcomes.

## Key Outcomes

Within months of successful implementation, the client saw immediate improvements in several operational areas.

Here are the key outcomes:

### 40% increase in operational efficiency:

The system reduces delays and enhances accuracy across vessel handling, cargo processing, and approvals.

### 65% reduction in manual paperwork:

Automation eliminates repetitive tasks such as manual documentation and data entry.

### 99% accuracy rate in vessel documentation and approvals:

Automated systems deliver near-perfect precision in preparing and approving documentation.

INTECH achieves these results by applying the right technologies to the right challenges.

## Tools and Technologies Used

INTECH implemented a robust, integrated technology stack to optimize the client's operations, ensuring seamless workflows and real-time tracking:

- ✦ **Frontend (JSP, Ext JS, and jQuery):** JSP generates dynamic content, Ext JS enhances UI interactivity, and jQuery simplifies user interactions. These technologies help build a responsive and user-friendly interface, improving the port staff's user experience.
- ✦ **Backend:** Java powers the backend of the system, with Struts2 managing workflows and business logic. This combination provides a stable, scalable foundation for handling high data volumes.
- ✦ **Oracle:** Offers a secure and high-performance platform for managing large datasets. It helps manage real-time data, ensuring accurate vessel and cargo tracking.