protiviti ®

Global Business Consulting

Transforming to automated processes in essential railway operations

Protiviti, in collaboration with the client team, conducted a series of workshops aimed at pinpointing suitable automation candidates through a range of discovery exercises. These targeted processes spanned across different departments, including train control, health and safety, and maintenance. The Nintex K2 (Low Code Platform) emerged as the chosen technology platform to fulfill the client's digitization objectives, serving as the foundational technology to meet the client's requirements.

Solution

The Protiviti team adopted a comprehensive strategy to discover, automate, and optimize workflows suitable for automation. They integrated the core system to facilitate seamless, digitization, data exchange and data retrieval, eliminating the need to switch between multiple applications. They also employed Robotic Process Automation (RPA) to efficiently aggregate and send daily reports to the stakeholders.

Core Features & Benefits Achieved

- Digitalization of five core business processes.
- Integration with Employee Active Directory and Firebase for easy employee data fetching and sending notifications.
- Administrative processes were enhanced for better control of the workflow.
- Unified platform to access the application and to check the progress of tasks.

Keys to Success

Change Requested

A digitalization solution was sought to automate the manual tasks conducted by multiple core business operation teams, including the railways infrastructure division, health and safety, and real estate, among others. These operational tasks, traditionally reliant on paper-based processes, led to errors, delayed responses, misinterpretations, and a lack of digital data availability. Tracking, monitoring, and reviewing assigned tasks proved challenging. Business owners were determined to address these pain points and enhance operational efficiency.

Change Envisioned

An integrated system designed to consolidate all operations onto a single platform, thereby automating workflows and tasks, ensuring governance and Segregation of Duties (SOD), optimizing approval and review processes. The primary objective was to transition from email communication to an enhanced system that would enhance efficiency and offer a comprehensive audit trail for all activities. In essence, the goal was to develop workflow applications for data capture in support of decision-making.

Face the Future with Confidence®

Change Delivered

We assisted our client in the digital transformation of their existing manual procedures, enhancing overall business processes. We pinpointed inefficiencies, proposed fresh workflows, and continuously implemented everyday use cases to bridge gaps. We effectively delivered value-added projects using a range of pre-existing solutions., optimizing their operations.

Implementation Approach

• Project initiation to implement the digital workflows into the client's environment.

• Set up an assessment and analyze the use cases identified during the workshops to finalize the final number of workflows to be automated.

• Implementation of Nintex Workflow on SharePoint environments for various departments.

• Continuous Development and Continuous Improvement of the deployed workflows.

Solutions Developed

Lessons learned & Briefing Document

The Challenge: One of the core business teams is responsible for maintaining 'Lessons Learned Documents' and updates to operational rules. Historically, these documents were created on paper and manually distributed within the department. Unfortunately, these physical documents, often serving as evidence, were occasionally misplaced or lost, necessitating the need to recreate them. This process led to additional delays in obtaining confirmation signatures, typically averaging around three weeks. There exists no formal system to track, monitor, or ensure the receipt of these documents, thereby heightening the risk and compliance challenges.

Solution Provided

The following manual activities have been fully digitized and automated.

Create a document containing challenges and their corresponding solutions to serve as a reference for lessons learned, shared within the department.

Manage rules and notify affiliated employees in real-time.

Benefits

The entire process, spanning from the formulation of challenges and solutions to the documentation of lessons learned, their distribution within OCC, and confirmation of receipt, has undergone complete automation, digitalization, and is now entirely paperless.

The digitalization of this process enhances operational efficiency through the use of notifications and confirmation receipts. It also provides access to an up-to-date digital library of operational guidelines and lessons learned, which can be conveniently and remotely accessed in real-time via web and mobile platforms, reducing the need for physical presence and the risk of document loss.

As a result of this solution, tracking and monitoring capabilities have been introduced. The department now has visibility into the receipt status of these updates, can trace confirmation signatures through audit trails, and issue reminders as needed.

Due to improved accessibility, real-time notifications now reach all employees in related departments, leading to enhanced compliance, a decrease in incident risks, and a remarkable reduction in the time required to obtain confirmations, from an average of three weeks to nearly immediate.

Now that the data is accessible in digital format, it can be utilized for predictive analysis and the creation of dashboards.

Incident Management

The Challenge: The department's responsibility involves overseeing and documenting all incidents occurring at client premises. They use various Excel sheets for data entry and report generation. However, relying on Excel has its challenges, as data can be forgotten, and monitoring and tracking, particularly in cases involving multiple business units, is not efficient. Analyzing the data also proves to be challenging, leading to inefficiencies in incident management.

Solution Provided

The following manual tasks have been digitized and streamlined:

Raising of new incident management report through the system.

Generation of consolidated report through automation.

Single view of all the various types of incidents and actions taken.

Benefits

The entire process, from incident reporting to entering, editing, and rectifying details, is now completely automated, digitized, and free of paper-based elements.

The digitalization of this process enhances operational efficiency through the introduction of notifications and the use of a digital repository containing all historical incidents. This repository is accessible in real-time and remotely, mitigating the risk of document loss.

Due to this solution, tracking and monitoring have been enabled. The department can now monitor the status of incidents, track other pertinent details such as trespassing or issues, and generate daily consolidated reports for monitoring purposes.

With increased accessibility, all affiliated department employees are informed in real-time, which increases compliance and reduces the turnaround time to increase the process efficiency.

Delay Dispute Management

The Challenge: The OPM team is responsible for maintaining a record of delay attribution disputes, including their accompanying documents and particulars. Presently, these requests are managed through manual email exchanges. However, this process is prone to issues like oversight, lack of effective monitoring and tracking, especially when multiple business units are involved, and it poses challenges for comprehensive analysis. Consequently, this approach leads to additional delays in processing disputes, reviewing comments, and addressing claims.

Solution Provided

As a direct outcome of this project, the following formerly manual tasks have been fully transitioned to automation:

Raising a delay attribution dispute to OPM

Following up and sending reminders to responsible business units

Dispute delay to another business unit

Benefits

The entire process, spanning from initiating a dispute, providing supporting evidence, transferring the matter to other business units, or escalating it to higher levels within OPM and the respective business units until the delay attribution is formally acknowledged, has been fully automated, digitized, and rendered paperless.

The process's digitalization enhances operational efficiency by introducing notification features and utilizing a digital repository for the supporting evidence associated with dispute requests. This

repository can be accessed in real-time, both remotely and via web and mobile platforms, mitigating the risk of document loss.

This solution has now enabled the tracking and monitoring of dispute requests. OPM can view the current status of such requests, monitor their progress towards resolution, and issue reminders as needed.

With improved accessibility, all OPM employees affiliated with this process will receive real-time notifications, enhancing compliance and reducing the time required to handle dispute requests.

Work Permit

The Challenge: At present, the team manages work permit requests through email. The process is entirely manual, relying on a specific work permit team member to distribute the requests and necessary documents to six departments (Engineering, HSE, NPM, ERM & I, Real Estate and Industrial Security) for review and approval. However, the current process faces numerous challenges, including delays in approvals and responses due to communication inefficiencies, document loss, difficulties in tracking and monitoring progress, and compliance issues related to third-party involvement.

Solution Provided

As an outcome of this project, the subsequent manual tasks have been automated.

Assigning work permit tasks to authorized employees within relevant departments.

Routing documents between affiliated business units

Work permit issuance, extension and closure

Reminders and escalation

Report generation of work permit requests

Benefits

The entire process, starting from the initiation of a work permit request, its allocation to the respective teams for review and action, and up to the extension and final closure of the work permit, has undergone complete digitalization.

Digitalization enhances process efficiency through the automation of task assignments, document routing, notifications, reminders, and escalation mechanisms. This automation has resulted in significant time savings, equivalent to over 1560 man-hours per year previously spent on coordinating work permit requests.

The solution stores all work permit-related documents in a well-organized central repository, ensuring easy access to prevent the risk of document loss and improve retrieval capabilities.

Tracking and monitoring are now operational, allowing users to check the status of requests, trace approval history through audit trails, and generate reports as needed.

The inclusion of built-in SLAs and escalation procedures enhances compliance, minimizes the risk of delays, and reduces the processing time by almost 42%, shrinking the turnaround time from **12 business days to 7**.

Periodic Maintenance

In the railway industry, maintenance plays a critical role in ensuring the safety and efficiency of tracks for both freight and passenger trains. Rail infrastructure is prone to wear and tear due to the substantial weight and high speeds at which trains operate. Inadequate maintenance can lead to the imposition of a 'Slow Order' on a line, aimed at reducing the risk of accidents. This, in turn, directly impacts the capacity to transport freight or passengers within a specified time frame.

The Challenge: The Periodic Maintenance forms consist of checklists that are completed at regular intervals for machinery and equipment. Previously, inspectors were required to manually enter data into numerous Excel forms and then manually send these forms to stakeholders for review. All pertinent data was maintained in Excel and PDF formats, making efficient monitoring and tracking a challenge. These documents were exclusively associated with work orders, lacking a centralized system for storing records and documents.

Solution Provided

As an outcome of this project, the following previously manual tasks have been fully transitioned to automation:

The system automatically generates an inspection request upon the creation of this request in the Maximo system and assigns it to the relevant group of inspectors, eliminating the need for manual intervention.

Inspectors have the ability to access the assigned requests from their dashboard or by clicking on a link provided in an email, allowing them to input all necessary information into the forms.

Once inspectors have completed and submitted the inspection request forms, reviewers can then assess and review them.

Both inspectors and reviewers have the option to save, submit, or request rework for the requests, and these actions are documented in the audit trail.

A centralized architecture that establishes connections with peripheral systems such as Maximo and the ECM system to enhance the overall system's performance.

All documents and attachments can be stored within a centralized data system, associating them with work order numbers and inspection request details. This capability enables users to archive and access historical data for work orders.

A unified dashboard for monitoring existing work orders and inspection requests, categorized according to various departments.

Creating a comprehensive report through automated means, resulting in time savings.

Benefits

The entire process, starting from the initiation of an inspection request, recording the details, handling any rework, and concluding with the review by the assigned reviewer, has been fully automated, digitized, and made paperless.

The digitization of this process enhances operational efficiency by introducing email notifications and enabling end-users to perform tasks on their mobile devices.

An audit trail is now accessible for all actions associated with a specific inspection request, enabling all stakeholders to monitor the activities performed on that request.

The implementation of a dashboard enables stakeholders to monitor all inspection requests,

reassign tasks, and access reports. This enhances the user experience, providing end users with a seamless and efficient interface.

The system provides an out-of-the-box Out of Office (OOO) functionality that allows users to delegate tasks when they are unavailable.

The system can automatically send reminder emails at defined intervals, thereby ensuring that inspections are completed on schedule.

Archiving all historical data pertaining to work orders in a structured format within a document management system.

The system has the capability to produce a consolidated report for monitoring purposes.

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