

# PROJECT PROPOSAL

## LOGISTICAL TRANSPORTATION MANAGEMENT (TMS) SYSTEM

### 1. SYNOPSIS

ITL Logistics Group, a reputable organization in the industry, is currently seeking proposals from eligible vendors to procure a comprehensive Transportation Management System (TMS). The primary goal is to implement a cutting-edge TMS system that will optimize and streamline the company's transportation and logistics operations, resulting in enhanced efficiency and effectiveness of the services provided.

The company is seeking a robust TMS software solution that will significantly improve the efficiency and effectiveness of its transportation and logistics operations. It is imperative for the system to possess advanced capabilities in terms of visibility, control, and reporting, in order to meet the demands of future growth. Moreover, the developed products should have the ability to optimize resource utilization and reduce operational costs, thus ensuring long-term sustainability and profitability for the company.

### BACKGROUND

The Company, known as ITL Logistics Group, is a renowned provider of end-to-end supply chain solutions, catering to both global and local markets with a strong presence in Vietnam. Committed to continually improving the quality of its logistics services, the Company is now inviting proposals from qualified vendors for the implementation of a comprehensive Transportation Management System (TMS).

As the selected vendor, we are fully dedicated to meticulously aligning the implementation of the TMS with the specific requirements of the Company. This comprehensive process will span a duration of six months, divided into six sprints, in accordance with the Scrum methodology. By following this structured approach, we will systematically develop and deliver the necessary features and functionalities, ensuring a methodical and timely execution that aligns with the Company's high standards and expectations.

### SCOPE

As the chosen vendor, our utmost priority is to develop, deploy, and establish a comprehensive maintenance plan for a tailor-made Transportation Management System (TMS) that will have a transformative impact on customer engagement, satisfaction, and operational efficiency within your esteemed organization. Our unwavering commitment lies in fulfilling both the functional and non-functional requirements of the project, ensuring that your company's objectives are met and surpassed.

#### Functional Requirements

1. **Order Management and Shipment Tracking:** The developed system will have the ability to create, manage, and track customer orders from creation to delivery. Furthermore, it will be able to provide real-time order tracking and status updates to ensure transparency and visibility for both internal and external stakeholders. Notification and alerts will be made should there be any delays or exceptions in shipment.
2. **Inventory Management:** Our system will enable monitoring and management of inventory levels in warehouses and during transportation. In case of low inventory levels or potential shortages, the system will take proactive inventory management actions.
3. **Carrier Management:** The system will maintain a centralized database of approved carriers, including their capabilities and performance history. Predefined data will be used for the assignment and management of carriers of each shipment.
4. **Route Planning and Optimization:** The system will facilitate efficient planning and optimization of delivery routes to minimize transportation costs and maximize efficiency. All the company's transportation models will be supported and integrated with additional support such as real-time traffic and weather data for route adjustments.
5. **Billing and Invoicing:** The system will be able to automatically generate accurate invoices based on shipment data, considering various billing structures.
6. **Analytics and Reporting:** In addition to these customer-centric features, we will also enhance the current operational tasks of the company. By collecting transportation performance, cost, and KPIs data, the

system will provide advanced analytic capabilities for trends analysis and support data-driven decision-making.

7. **User Management and Access Control:** The system will implement role-based access control to ensure data security and restrict system access based on user roles and responsibilities.

Given the current substantial growth of our company, our team is committed to not only fulfilling the functional requirements but also enhancing the non-functional requirements to ensure an exceptional and reliable solution.

### **Non-functional Requirements**

1. **Performance and Scalability:** To optimize performance and accommodate the anticipated increase in user demand, our team will leverage cloud services such as AWS to handle high volume of transactions and data without compromising performance. The provided architecture on AWS will also accommodate future growth for increasing demands.
2. **Security:** Recognizing the importance of security, our system will ensure that data is encrypted to protect confidentiality and integrity of sensitive information, both at rest and in transit. Furthermore, regular security audits and penetration testing will be conducted to address vulnerabilities.
3. **Integration Capabilities:** The developed TSM will seamlessly integrate with the existing ERP and CRM systems to enable data exchange and streamline business processes, we will also ensure that the system is compatible with third party logistics providers and carriers for smooth collaboration.
4. **Data Backup and Recovery:** The system will have automatic data backup procedures in place to prevent data loss. Disaster recovery procedures will also be developed to ensure business continuity in the event of system failure or disruption.
5. **User Training and Support:** Comprehensive training sessions will be conducted for ITL Logistics Group staff to effectively use the TMS software. Moreover, the developed system will have user-friendly interface and in-app support as well as ongoing technical support and maintenance to resolve any issues.

Our goal is to develop a comprehensive Transportation Management System (TMS) that addresses the functional and non-functional requirements mentioned above. By doing so, we aim to enhance the company's reputation by efficiently managing customer orders, optimizing operations, and promoting customer satisfaction.

## **2. DELIVERABLES AND SCHEDULE**

### **2.1. Expected Deliverables**

- A complete Transportation Management System with all requirements specified in Part 3 – Scope:
  - Be able to facilitate and tailor to clients' requirements.
  - Integrate with existing CRM and ERP.
  - Ensure security and compliance.
  - Provide advanced reporting and analytics capabilities.
- Training program and tutorial materials to use the TMS.
- Technical support and maintenance services.

### **2.2. Expected Timeline**

- Project start date: 01/01/2024
- Project end date: 01/07/2024
- Platform Launch: 01/01/2025
- Number of sprints: 6
- Sprint estimated length: 1 month for 1 sprint.

### 3. INITIAL RELEASE SCHEDULE OF THE PRODUCT BACKLOG ITEMS

No.	Backlog Item	Dependencies	Business Value	Release Schedule
<b>Sprint 1: Order Management and Shipment Tracking</b>				
F1	Develop user interface for order creation and management.	-	10	Sprint 1
F2	Allow user to create new customer order using their registered account.	F1	10	Sprint 1
F3	Develop backend functionality to manage customer orders.	F1	9	Sprint 1
F4	Integrate GPS and RFID technologies to enable real-time tracking of shipments.	F1	8	Sprint 1
F5	Implement notification system that sends alerts and updates to relevant stakeholders.	F1	8	Sprint 1
F6	Develop order and shipment tracking dashboard.	-	8	Sprint 1
F7	Display overview of all active orders, their current status, and any issues or exceptions.	F6	7	Sprint 1
F8	Develop order management and shipment reporting mechanism that gather relevant data for summarizing report and support data analysis.	F6	8	Sprint 1
F9	Implement chatbox that allows the user to communicate with customer services.	F6	7	Sprint 1
F10	Add more options, such as sending attachments, photos, to the chatbox.	F6	7	Sprint 1
<b>Sprint 2: Carrier Management</b>				
F11	Develop carrier management database schema for storing carrier information, including registration status, capabilities, and performance history.	-	9	Sprint 2
F12	Design and implement a user-friendly form for carrier registration with fields for name, contact, details, capabilities and relevant information.	F11	7	Sprint 2
F13	Build carrier approval workflow that allows administrator to review and approve carrier registrations.	F11	8	Sprint 2
F14	Develop carrier management dashboard for carrier's overview information.	-	7	Sprint 2
F15	Allow the administrator to view the relevant information of a carrier, including its capabilities and performance	F14	7	Sprint 2
F16	Allow the administrator to approve or reject carrier's registration.	F14	8	Sprint 2
F17	Allow the administrator to edit carrier information.	F14	8	Sprint 2
F18	Allow the administrator to deactivate carriers when necessary.	F14	8	Sprint 2

F19	Allow the administrator to search and filter carriers based on specific criteria .	F14	7	Sprint 2
F20	Develop functionality that enable administrator to assign carrier to shipment.	F14	9	Sprint 2
F21	Allow the administrator to edit carrier to shipment mapping when necessary.	F20	8	Sprint 2
F22	Implement functionality to track carrier performance.	-	8	Sprint 2
F23	Develop mechanism to record and update carrier performance data in the system.	F22	7	Sprint 2
F24	Develop functionality to synchronize carrier performance on the dashboard and database.	F22	8	Sprint 2
F25	Develop carrier reporting and analytics mechanism that gather relevant data for summarizing report and support data analysis.	F22	9	Sprint 2
F26	Develop mechanism to enable the customer to provide feedback on the carrier.	-	7	Sprint 2
<b>Sprint 3: Route Planning and Optimization</b>				
F27	Develop route planning algorithm based on predefined factors.	-	9	Sprint 3
F28	Integrate all the currently available transportation models of the company.	F27	9	Sprint 3
F29	Integrate real-time traffic data sources to gather up-to-date information on traffic condition.	F27	7	Sprint 3
F30	Integrate real-time weather data sources to gather up-to-date information on weather condition.	F27	7	Sprint 3
F31	Develop route optimization functionality based on predefined criteria, including traffic data and weather condition.	F27	9	Sprint 3
F32	Allow the user to filter the route optimization suggestion based on costs, mileage, fuel efficiency, traffic, and weather condition.	F31	7	Sprint 3
F33	Enable the system to handle routes with multiple stops and multi-leg routes.	F31	8	Sprint 3
F34	Develop user interface for route optimization planning.	-	7	Sprint 3
F35	Allow the user to customize basic configuration of the user interface.	F34	6	Sprint 3
F36	Develop visual comparison of different routes based on predefined criteria.	F34	6	Sprint 3
<b>Sprint 4: Inventory Management – Billing and Invoicing</b>				

F37	Develop inventory tracking functionality to track inventory levels in warehouses and during transportation.	-	10	Sprint 4
F38	Integrate the system with reconciliation function using barcode or RFID.	F37	9	Sprint 4
F39	Create mechanism that monitors inventory levels and sends alerts when they reach threshold.	F37	9	Sprint 4
F40	Develop daily batch job for physical inventory reconciliation .	F37	9	Sprint 4
F41	Develop inventory reporting and analytics mechanism that gather relevant data for summarizing report and support data analysis.	F37	8	Sprint 4
F42	Develop user interface for inventory management.	-	7	Sprint 4
F43	Develop billing structure for currently available format (per shipment, weight-based or volume-based).	-	9	Sprint 4
F44	Integrate shipment data with billing and invoice data.	F43	9	Sprint 4
F45	Develop a process to automatically generate invoices based on shipment data and predefined billing rules.	F43	9	Sprint 4
F46	Implement reconciliation process to ensure accuracy and consistency between generated invoices and actual shipment.	F43	9	Sprint 4
F47	Develop billing reporting and analytics mechanism that gather relevant data for summarizing report and support data analysis.	F43	8	Sprint 4
<b>Sprint 5: Data Analytics and Reporting</b>				
F48	Develop mechanisms to summarize key metrics from order, carrier, inventory, shipment, and other relevant reports.	-	8	Sprint 5
F49	Implement algorithms to allow the system to identify trends, patterns from the summarized data.	F48	8	Sprint 5
F50	Integrate data visualization tools to allow the system to create visualizations that illustrates the identified business trends.	F48	7	Sprint 5
F51	Allow the data in the TMS database to be updated in real-time.	-	7	Sprint 5
F52	Implement a data processing pipeline to analyze and support real-time data analysis.	F51	8	Sprint 5
F53	Integrate dashboards to provide the system administrators and the executives with insights into business trends.	F51	7	Sprint 5

F54	Schedule daily backup for data in the TMS system to prevent data loss	-	7	Sprint 5
F55	Allow the CRM system to automatically scale to handle the increasing data volume (when needed)	-	9	Sprint 5

Sprint 6: Security and Further Support				
F56	Design user roles and permissions within the system.	-	9	Sprint 6
F57	Implement role-based access control to restrict system access based on user roles and permissions.	F56	8	Sprint 6
F58	Implement password policies with complexity and MFA to enhance system security	-	8	Sprint 6
F59	Implement user registration and authentication for both the internal and external stakeholders.	F58	8	Sprint 6
F60	Create user management interfaces that allows administrator to provision user accounts and monitor overall access control.	-	7	Sprint 6
F61	Allow the administrator to create roles or identities for relevant stakeholders.	F60	7	Sprint 6
F62	Allow the administrator to update roles or identities for relevant stakeholders.	F60	7	Sprint 6
F63	Allow the administrator to deactivate or delete roles or identities for relevant stakeholders.	F60	7	Sprint 6
F64	Implement audit logging functionality to track user activities and system changes.	-	8	Sprint 6
F65	Prepare training materials (slides, books, videos...)	-	7	Sprint 6
F66	Prepare a user manual for the TMS system.	-	7	Sprint 6
F67	Prepare a guideline to solve all technical issues that may happen.	-	7	Sprint 6
F68	Make a maintenance plan, allocate staff responsible for further support with the TMS system.	-	7	Sprint 6

