Revolutionizing Agriculture with AgriEdge Or-Mange Ltd:

A Salesforce-Driven Order Management Solution

Project Overview

The agricultural domain is indispensable yet often under-leveraged in terms of enterprise digitalization and process automation. AgriEdge Or Mange Ltd is embarking on a strategic digital transformation initiative to streamline its operations by harnessing the power of Salesforce CRM.

The solution will deliver a comprehensive Order Management System (OMS) designed to manage agricultural product orders, track deliveries, capture customer data, and drive automated workflows, thereby minimizing manual intervention.

This transformation will enable operational transparency, elevate customer engagement, and enhance lifecycle management of products, ensuring the organization achieves agility, reliability, and sustained growth.

Objectives

The Salesforce CRM project aims to enhance operational efficiency and streamline customer management by:

- Automating order placement, tracking, and fulfillment to minimize manual effort.
- Centralizing customer data and interaction history for better visibility.
- Enabling accurate reporting and data-driven business decisions.
- Improving productivity for field agents, sales teams, and logistics staff.
- Implementing task notifications and approval workflows for smoother operations.

Phase 1: Requirement Analysis & Planning

Understanding Business Requirements

The organization required a unified system to track agricultural equipment and product orders from initiation through final delivery. Existing challenges included frequent record losses, delayed response times, and the absence of real-time visibility into customer order status. The envisioned solution aimed to enable real-time order tracking, automated communication with customers, and improved tools for operational decision-making.

Defining Project Scope and Objectives

Key functionalities to be addressed in this phase included:

• Maintaining detailed customer profiles with complete purchase history.
• Tracking real-time order status and shipment progress.
• Automating approvals and shipment initiation triggers.
• Integrating delivery schedules along with customer feedback mechanisms.
• Establishing role-based access for Admins, Managers, and Agents.

Designing Data and Security Models

The system architecture was planned to ensure robust data management and secure access:

• Custom Objects: Order__c, Product__c, Customer__c, Shipment__c.
• Relationships: Master-Detail between Orders and Products; Lookup between Customers and Orders.
• Security: Role hierarchy of Agent > Manager > Admin with field-level permissions applied based on profiles.

Phase 2: Salesforce Development – Backend & Configurations

Environment Setup and DevOps Workflow

The development environment was established to support a structured and scalable delivery approach. Activities in this phase included:

• Provisioning a dedicated Salesforce Developer Org for configuration and testing.
• Utilizing Change Sets for seamless deployment between environments.
• Enabling Dev Hub and optional Scratch Orgs to facilitate SFDX-based development workflows.

Object Customization and Field Configuration

The core data model was customized to support the OMS requirements:

• Creation of custom objects and fields to capture orders, products, customers, and shipments.
• Implementation of validation rules such as ensuring the delivery date is always after the order date.
• Configuration of picklist values for key status fields, including “Pending,” “In Process,” and “Delivered.”

Automation and Workflow Enhancements

Salesforce automation tools were leveraged to streamline operations and reduce manual tasks:

• Flows: Automatically create a follow-up task when a new order is submitted.
• Process Builder: Trigger an email notification when an order status changes to

“Shipped.”
• Approval Processes: Configure multi-level approvals for high-value orders exceeding a defined threshold.
• Workflow Rules: Generate alerts for overdue deliveries to improve responsiveness.

Apex Development
Custom Apex logic was developed to address advanced business needs and bulk processing:
• Apex Triggers to automatically create related records upon order creation.
• Apex Classes to calculate total order costs, including applicable discounts.
• Batch Apex jobs to update order statuses for large record volumes during nightly processing cycles.

Phase 3: UI/UX Development & Customization

Lightning App Configuration
The user interface was designed to provide a streamlined and intuitive experience for different user roles. Key activities included:
• Developing a dedicated “AgriEdge OMS” Lightning App with essential navigation for core business objects.
• Customizing tab layouts to ensure quick access to orders, products, shipments, and customer records.

Page Layouts and Dynamic Forms
User experience was enhanced through role-based and stage-driven layouts:
• Configured dynamic forms to display or hide sections based on user role or order lifecycle stage.
• Designed tailored page layouts for Admins, Managers, and Agents to optimize usability and reduce clutter.

User Roles and Access Management
A structured user management approach ensured secure and role-specific access:
• Defined and assigned key roles including Admin, Agent, and Delivery Executive.
• Implemented profile-based CRUD permissions on all custom objects to maintain data security and operational integrity.

Reports and Dashboards
Visual analytics were developed to provide actionable insights for management and operations teams:
• Created an Order Summary Report with real-time grouping by order status.
• Designed dashboards to highlight daily order volumes, revenue generation, and agent performance metrics.

Lightning Web Components (LWC)

Custom Lightning Web Components were built to improve user efficiency and interactivity:

• Developed a Quick Order Entry component to accelerate order creation for field agents.

• Integrated a live shipment tracking component using an external API to provide real-time delivery updates as an extended feature.

Phase 4: Data Migration, Testing & Security

Data Migration and Loading

Historical and operational data were migrated into Salesforce to ensure a seamless transition to the new OMS:

• Utilized Data Loader to import historical orders and shipment records from Excel files.

• Applied the Data Import Wizard to efficiently create bulk customer records with minimal errors.

Field History Tracking and Data Quality Controls

To maintain data integrity and provide auditability, the following measures were implemented:

• Enabled Field History Tracking on critical fields such as Order Status and Delivery Date.

• Configured Matching Rules and Duplicate Rules to prevent the creation of redundant customer or order records.

Security and Access Configuration

Role-based access and temporary privileges were managed to ensure controlled data visibility:

• Created permission sets for temporary or task-specific access to restricted objects.

• Applied sharing rules to segment data visibility based on regional operations.

Testing and Quality Assurance

A rigorous testing process was carried out to validate system functionality and ensure code reliability:

• Developed unit test classes for all Apex triggers and classes, achieving over 90% code coverage.

• Documented test cases to cover order creation, approval workflows, and automated notifications.

Test Case Documentation

Test Case	Description	Expected Output	Actual Output
TC01	Create Order	Order Created Successfully	✅
TC02	Submit for Approval	Approval Email Sent	✅
TC03	Overdue Order Alert	Notification Sent to Manager	✅

Phase 5: Deployment, Documentation & Maintenance

Deployment Strategy

The deployment process was designed to ensure a smooth transition from development to production. Metadata was migrated from the Developer Org to the UAT Org using Change Sets, followed by manual verification of each component to confirm functionality before final deployment to production.

System Maintenance Plan

To maintain reliability and performance, a structured maintenance approach was implemented:

• Weekly system health checks to identify and resolve potential issues proactively.
• Monthly reviews of automation logic, including Flows, Process Builder, and Workflow Rules, to optimize performance.
• Scheduled data exports as part of a backup and disaster recovery plan.

Troubleshooting and Monitoring

Proactive monitoring and clear documentation were introduced to minimize downtime and support quick resolution of errors:

• A troubleshooting guide was prepared to address common issues such as missing field access, permission errors, or failed record updates.
• Scheduled reports and monitoring alerts were set up to identify automation or workflow failures promptly.

Conclusion

The implementation of the Salesforce-based Order Management System for AgriEdge Or-Mange Ltd has effectively transformed the organization’s agricultural operations. By introducing streamlined order tracking, automated approval workflows, and secure role-based access, the platform has enhanced operational efficiency, improved customer engagement, and provided real-time visibility into the order lifecycle.

Designed with scalability in mind, the system establishes a strong foundation for future enhancements, positioning the organization for sustained digital growth and improved competitiveness within the agriculture sector.

Future Enhancements

To further strengthen the system and expand its capabilities, the following enhancements are planned for future releases:

• **AI-Driven Demand Forecasting**: Leveraging predictive analytics to anticipate product demand and optimize inventory planning.
• **Intelligent Chatbot Support**: Providing customers with real-time assistance and order updates through conversational AI.
• **Mobile Application Enablement**: Equipping field agents with mobile access to manage orders, track deliveries, and update records on the go.
• **WhatsApp Notification Integration**: Sending instant order confirmations, shipment updates, and alerts via WhatsApp.
• **Multilingual Interface**: Supporting multiple languages to enhance accessibility for rural agents and diverse regional teams.