RePlastix Innovations:

Transforming Plastic Waste into Sustainable Solutions

ABSTRACT

Every year, millions of tons of plastic find their way into landfills and our oceans, threatening planetary health and future generations. At RePlastix Innovations, we believe that tackling this crisis requires more than technology—it demands empathy, collaboration, and a shared commitment to a sustainable future.

Our vision goes beyond recycling. By harnessing Salesforce's powerful solutions, we have created a digital ecosystem that brings together individuals, communities, and organizations to close the loop on plastic waste. From the moment waste is collected, Salesforce tools help us track, classify, and process it efficiently, ensuring nothing goes unnoticed.

But our journey doesn't end with waste management. Working closely with communities and innovators, we transform discarded plastics into useful products that people can be proud of—turning yesterday's problems into tomorrow's solutions. Through tailored Salesforce dashboards, we share real stories of impact: tons of waste saved from landfills, emissions curbed, and lives enriched by new job opportunities.

In everything we do, we measure not just numbers, but the difference we make in people's lives and the planet's future. By uniting innovation, compassion, and purpose, RePlastix Innovations and Salesforce demonstrate how digital transformation can empower real, lasting change in our world.

OBJECTIVE

1. **Streamline Plastic Waste Collection and Tracking**

   - Use Salesforce tools to automate and optimize the collection, logging, and monitoring of plastic waste from diverse sources, ensuring complete traceability and operational transparency.

2. **Foster Community and Stakeholder Engagement**

   - Create inclusive Salesforce-powered portals and communication channels that empower individuals, local communities, suppliers, and partners to collaborate, share feedback, and contribute ideas toward sustainable practices.

3. **Transform Waste into Sustainable Products**

   - Leverage technology and creative partnerships to convert sorted plastic waste into innovative, high-quality products, supporting local entrepreneurship and market demand for recycled goods.

4. **Measure and Amplify Environmental and Social Impact**

   - Develop intuitive Salesforce dashboards to track real-time environmental outcomes—such as reduction in landfill waste, carbon emissions savings, and positive community stories—and use these insights to guide future innovations.

5. **Promote Education and Behavioral Change**

   - Integrate knowledge-sharing resources and interactive features within Salesforce to raise awareness, inspire responsible plastic use, and cultivate a culture of sustainability across all stakeholders.

6. **Support Scalable and Continuous Innovation**

   - Foster a data-driven, design-thinking approach throughout the project, ensuring regular review, rapid prototyping, and continual improvement of solutions for broader regional and global adoption.

These objectives reflect both the technological excellence and the people-centered mission of RePlastix Innovations, demonstrating how digital transformation, sustainability, and human connection can work together to create lasting change.

TECHNOLOGY DESCRIPTION

1. Core Salesforce Architecture

- **Salesforce Net Zero Cloud:** At the heart of RePlastix Innovations is Salesforce's Net Zero Cloud platform, which provides robust tools for tracking, managing, and reporting plastic waste data. This platform enables organizations to create detailed waste records, connect those records to sources and disposal methods, and automate complex calculations such as greenhouse gas emissions derived from multiple waste streams.

- **Sales Cloud and Field Service:** These modules power supply chain logistics, partner engagement, and the scheduling and routing of waste collection. From local partners to field operations teams, Salesforce enables real-time coordination and full visibility across all stakeholders in the circular economy.

2. Automation and Data Integration

- **Automated Waste Tracking:** Waste records are generated and updated automatically using sensors, mobile inputs from field teams, and integration with third-party recycling partners. Each batch or consignment of plastic waste is tracked from collection through processing via unique identifiers and QR codes, reducing manual errors and ensuring complete traceability.

- **Custom Intelligent Reporting:** Salesforce's Reporting and Analytics features aggregate data from all sources—including waste quantity, type, disposition, and recycling outcomes. These insights drive both operational efficiency and compliance, enabling data-driven decisions at every level of the organization.

- **Partner & Community Portals:** Built on Experience Cloud, these portals allow suppliers, community organizations, and internal stakeholders to access relevant dashboards, update records, and share feedback, fostering transparent and collaborative innovation.

3. Environmental Impact Calculation

- **Emissions and Circularity Metrics:** Net Zero Cloud calculates and visualizes Scope 1, Scope 3 upstream, and downstream emissions associated with both operations and the lifecycle of recycled products. Standardized emissions factors and custom automation ensure compliance with sustainability reporting standards and local regulations.

- **Dashboards & Visual Analytics:** Real-time dashboards show live progress on key metrics, including total waste diverted from landfills, CO_2 emissions avoided, and recycled product output, helping leadership rapidly identify intervention points and success stories.

4. User Experience and Accessibility

- **Mobile Solutions:** Field agents and collection teams leverage mobile Salesforce apps to collect data, submit photos, scan waste, and confirm deliveries or pickups, enabling operations across urban and rural areas with consistent data quality.

- **Collaboration Tools:** Digital communities powered by Salesforce connect partners, customers, and employees. Features include chat, document sharing, case management, and integrated notifications, making the process interactive and efficient for all participants.

5. Scalability and Security

- **Cloud-First, API-Driven Integration:** Salesforce enables seamless integration with third-party systems, IoT devices, logistics tools, and blockchain networks to enhance traceability of recycled plastics and scale operations regionally or globally.

- **Security and Compliance:** The platform provides granular controls for data access, role-based security, and robust auditing to protect sensitive environmental and business information while ensuring adherence to evolving compliance frameworks.

DETAILED EXECUTION OF PROJECT PHASES

- **Developer Org Setup**

    1. A Salesforce Developer Org was created using
       https://developer.salesforce.com/signup

    2. The Account was verified, password set, and access was granted to the Salesforce Setup page.
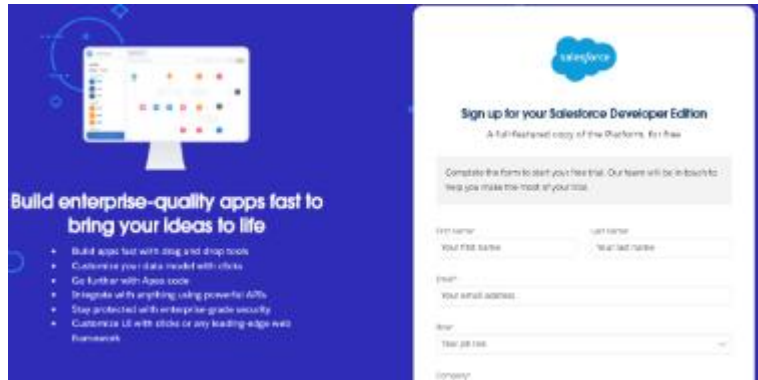
- **Custom Object Creation**
  Five custom objects were creayed to store business-critical data:

  1. Re Plastic Innovations Plastic Waste
  2. Re Plastic Innovations Recycling Center
  3. Re Plastic Innovations Recycled Product
  4. Re Plastic Innovations Order
  5. Re Plastic Innovations Restock Request

Steps followed:

- setup page → Click on Object Manager → Click on Create → Click on Custom Object
- label name→ Re Plastic Innovations Plastic Waste
- Enter Record Name Label and Format

- **Creating the Lighting App**

  1. A custom Lighting App named Re Plastic Innovations was created.

2. Included tabs: Re Plastic Innovations Plastic Waste, Re Plastic Innovations Recycling Center, Re Plastic Innovations Recycled Product, Re Plastic Innovations Order, Re Plastic Innovations Restock Request.
3. Assigned to System Administrator profile.

- **Validation Rules**

  1. Check_Quantity_Not_Zero.
     Formula : Quantity__c <=0
     Error Message : "Quantity must be greater than zero."

  2. Future_Data_Collection
     Formula: Collection_Data_c> TODAY()
     Error Message : "Collection Date cannot be in the future."
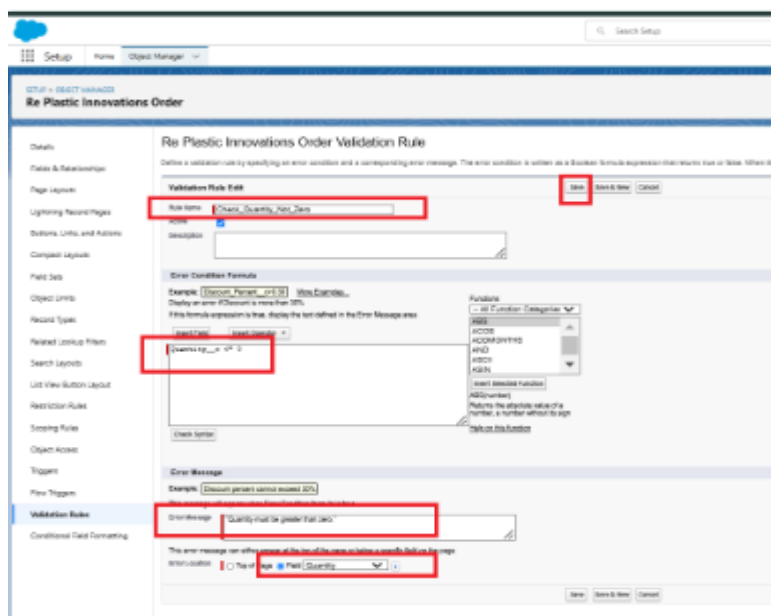
- **User Role & Profile Setup**

  1. Closed the Standard User profile to a new profile named Platform1 and added access to necessary custom objects.
  2. Created Roles for different departments:
     Inventory Manager, Recycling Manager, Warehouse Supervisor.

- **User Creation**

  1. Created 3 Users named John Production Engineer; Quality Inspector Mike; Plant Manager Albert.
  2. And Assigned their respective roles.

- **Giving Record Level Access**

    1. Giving record level acces to the users.
    2. And selecting the records which should be shared to CEO, Recycling Manager.
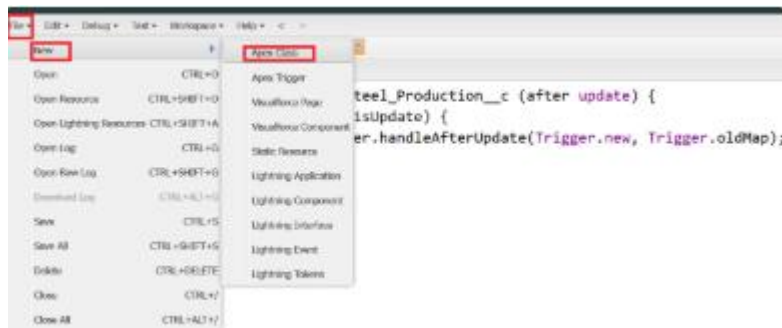

- **Stock Flow**

    1. Creating the Scheduled trigger flow.
    2. Selecting the objects and adding the Decision element.
    3. Then saving and Activating the flow.

- **Creating the Apex Class**

    1. By opening The developer console we can create the Apex class and Apex Trigger.
    2. Create an Apex Class and name it as "InventoryManager"

PROJECT EXPLANATION WITH REAL-WORLD EXAMPLE

RePlastix Innovations is focused on revolutionizing plastic waste management by turning discarded plastics into valuable, sustainable products. Leveraging Salesforce's ecosystem—including Net Zero Cloud, Sales Cloud, and Experience Cloud—the project creates a seamless, data-driven process connecting waste collectors, communities, partners, and recyclers in pursuit of a circular plastic economy.

How the Project Works: Step-by-Step

1. Waste Collection and Tracking

- **Real World Scenario:**
  In a metropolitan area, local collection agents are equipped with mobile devices running Salesforce apps. Residents and businesses register requests via a community portal when they have plastic to be picked up.

- **How It Works:**
  Each collection is logged with GPS time-stamping and QR code scanning. The app

updates the status of each waste batch in real time, ensuring transparency and data accuracy.

2. Sorting and Processing

- **Real World Scenario:**
  The collected plastic is transported to a recycling facility. Here, staff use Salesforce-enabled tablets to track the sorting process (by polymer type, color, and quality).

- **How It Works:**
  Staff record each sorting step in the system. This data feeds into dashboards that optimize batch processing and reveal potential bottlenecks, making operations more efficient.

3. Recycling and Product Creation

- **Real World Scenario:**
  Sorted plastic is processed into pellets, then manufactured into products such as park benches, construction materials, or reusable containers.

- **How It Works:**
  Each product batch is assigned a digital record in Salesforce, linking back to the original waste source. This ensures end-to-end traceability, which can be shared with partners and consumers for trust and compliance.

4. Community and Partner Engagement

- **Real World Scenario:**
  RePlastix opens its Experience Cloud portal to allow partners (e.g., local businesses, NGOs, municipal agencies) to view project progress, contribute feedback, and suggest collaboration opportunities.

- **How It Works:**
  Stakeholders can track real-time environmental impact, share best practices, and even co-create new product designs through interactive forums and dashboards.

5. Environmental Impact Tracking

- **Real World Scenario:**
  The city wants to report on sustainability goals for public transparency and future funding opportunities.

- **How It Works:**
  Salesforce Net Zero Cloud computes metrics such as kilograms of plastic diverted from landfills, carbon emissions prevented, and number of recycled products distributed. Dashboards visualize these figures for audits, grant reporting, and community updates.

Real-World Example: Urban Park Transformation

Imagine a partnership between RePlastix Innovations and a city's parks department.

- **Scenario:**
  Over six months, plastic waste collected from local households and businesses is processed into recycled plastic benches and playground equipment.

- **Implementation:**
  Every bench installed in the park comes with a QR code. When scanned, it reveals:

  - The amount and type of recycled plastic used.

  - Community contributors and collection points.

  - Environmental impact (e.g., CO_2 emissions avoided).

  - Stories or testimonials from residents engaged in the recycling effort.

- **Outcome:**
  The project creates local jobs, reduces landfill volumes, enhances public spaces, and fosters civic pride. Residents see direct results from their recycling efforts, driving higher participation and stronger community bonds.

Key Benefits Illustrated

- **Transparency:** Every stakeholder can see the lifecycle of plastic waste from collection to upcycled product.

- **Efficiency:** Automation reduces manual errors, speeds up processes, and minimizes resource waste.

- **Community Engagement:** Dedicated portals empower residents and partners to participate, share ideas, and witness tangible results.

- **Scalability:** The solution can be effortlessly expanded to new neighborhoods, cities, or countries with minimal reconfiguration.

- **Environmental Impact:** Quantifiable, data-driven reductions in plastic waste and emissions, contributing directly to sustainability goals.
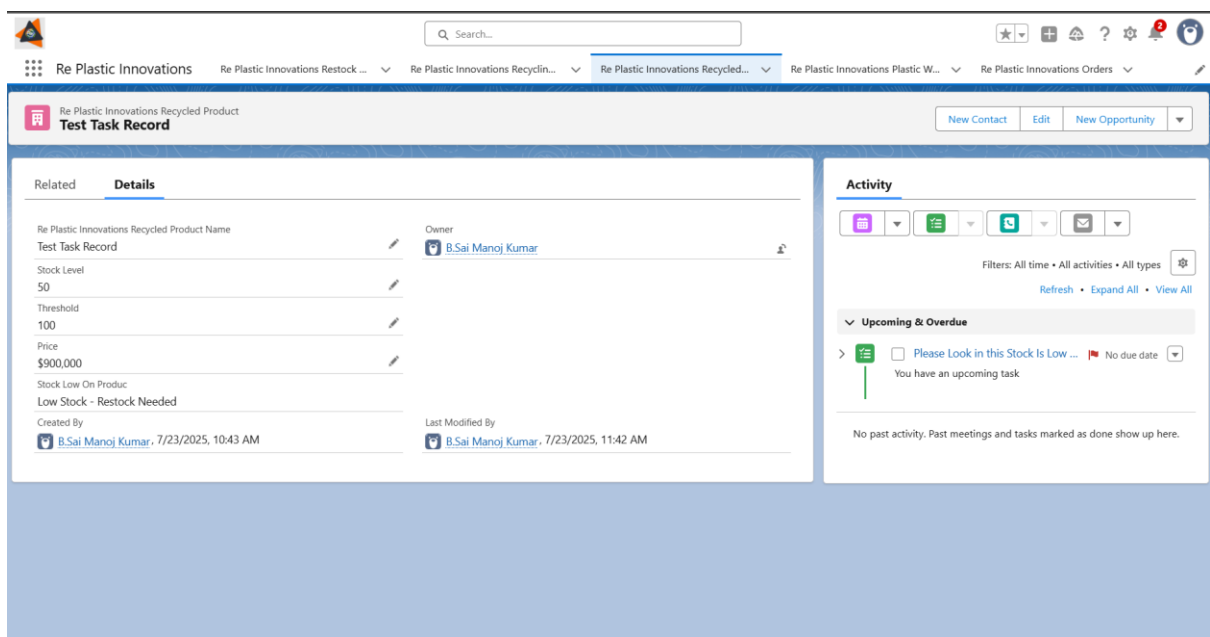
This real-world example demonstrates how RePlastix Innovations, using the Salesforce platform, transforms plastic waste into tangible, sustainable solutions—bridging the gap between technology, community action, and environmental impact.

SCREEN SHOTS

- App I created for Re Plastic Innovations
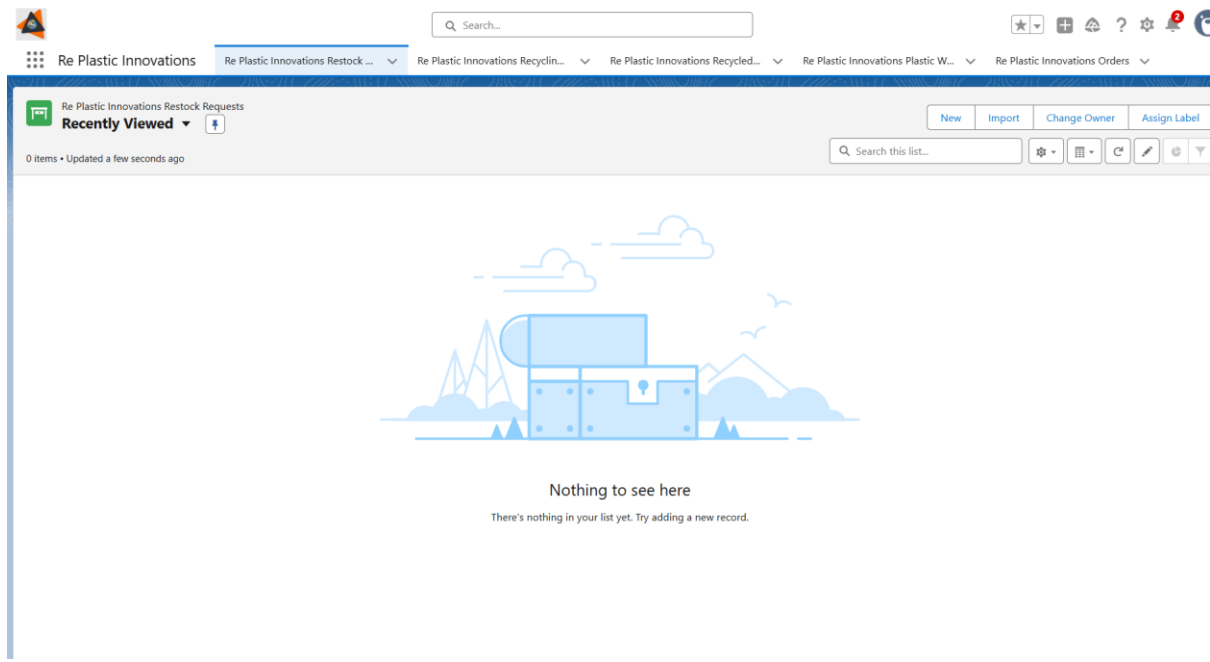
- Order Confirmation

- Restock Request Approval mail

Restock Request Approved

R — Restock Request 11:35 AM
to ⌄

The restock request for product HDPE Pellets has been approved. Please proceed with stock update.

CONCLUSION:

The RePlastix Innovations project demonstrates the effective integration of advanced technology and sustainability principles to address the critical issue of plastic waste management. By utilizing the comprehensive Salesforce platform—including Net Zero Cloud, Sales Cloud, and Experience Cloud—the project establishes a transparent, efficient, and scalable system that connects diverse stakeholders such as communities, waste collectors, recyclers, and partners within a circular economy framework.

This platform not only automates and optimizes key processes related to plastic waste collection, sorting, processing, and product innovation but also empowers stakeholders through real-time data insights, collaborative portals, and meaningful engagement channels. The project's data-driven approach facilitates continual monitoring and measurement of environmental and social impacts, ensuring accountability and fostering greater community participation.

Moreover, RePlastix Innovations illustrates how sustainable innovation can be harmonized with business objectives, offering a replicable model that can be expanded across various regions and industries aiming to achieve circularity and reduce environmental footprint.

In conclusion, RePlastix Innovations advances the pursuit of a cleaner and more sustainable future by transforming plastic waste into valuable solutions, thereby contributing significantly to global environmental conservation efforts and social empowerment.