**Comprehensive Rotable Inventory Management for SIA**

**Objective**: Streamline and optimize the management of rotable inventories to reduce manual errors, manage costs, schedule maintenance effectively, and provide real-time data visibility.

**Key Challenges:**

1. **Manual Errors and Inefficiency**:
   * **Current State**: Excel is used to manage rotable inventories, which is prone to manual errors.
   * **Impact**: Errors can lead to incorrect inventory levels, causing either shortages or overstocking, which disrupts operations and increases costs.
2. **Cost Management**:
   * **Current State**: Monitoring the costs of rotable parts manually is challenging and time-consuming.
   * **Impact**: Without real-time data, airlines may miss opportunities for cost savings due to price fluctuations in the market.
3. **Replacement and Maintenance Scheduling**:
   * **Current State**: Scheduling part replacements and maintenance relies on manual tracking and is not predictive.
   * **Impact**: This can result in unexpected part failures and aircraft on ground (AOG) situations, leading to operational delays and increased costs.
4. **Integration and Data Visibility**:
   * **Current State**: Data is often fragmented across multiple systems and spreadsheets, lacking integration with ERP systems.
   * **Impact**: Decision-making is hindered by the lack of real-time, centralized data visibility.

**Proposed Solutions:**

1. **Automated Inventory Management**:
   * **Features**:
     + **Automated Tracking**: Integrating with various existing systems to create a single source of data and then tracking inventory.
     + **Provisioning**: Streamline the process of provisioning parts, reducing manual effort.
   * **Benefits**: Reduces manual errors, enhances efficiency, and ensures accurate inventory levels.
2. **Cost Monitoring and Alerts**:
   * **Features**:
     + **Real-time Cost Monitoring**: Integrate with online marketplaces to monitor part costs in real-time.
     + **Automated Alerts**: Set up alerts for price drops to capitalize on cost-saving opportunities.
   * **Benefits**: Enables timely and cost-effective purchasing decisions, optimizing the budget.
3. **Predictive Maintenance and Replacement Alerts**:
   * **Features**:
     + **Predictive Analytics**: Implement predictive analytics to forecast part replacements and maintenance schedules.
     + **Automated Alerts**: Notify maintenance staff when parts need to be replaced based on usage data and predefined thresholds.
   * **Benefits**: Minimizes AOG situations, improves reliability, and ensures timely maintenance.
4. **Integrated Data Dashboard**:
   * **Features**:
     + **Comprehensive Dashboard**: Develop a user-friendly dashboard providing real-time visibility into inventory levels, usage history, upcoming replacements, and cost trends.
     + **ERP Integration**: Ensure seamless integration with existing ERP systems to centralize data management.
   * **Benefits**: Enhances decision-making with real-time data visibility, reduces data fragmentation, and improves operational efficiency.