# Centralized NPI Dashboard Design & Functionality

## 1. Purpose

The Centralized NPI Dashboard is designed to provide real-time visibility into the New Product Introduction (NPI) hardware build process. It ensures seamless coordination between engineering, supply chain, procurement, and manufacturing teams, enabling timely and data-driven decision-making.

## 2. Dashboard Design Layout

### A. Header Section

- Project Title: Integrated NPI Build Planning and Hardware Optimization Framework  
- Current Build Phase: (Prototype / Pilot Run / Mass Production)  
- Date & Time: Real-time update timestamp

### B. Key Performance Indicators (KPIs)

- Total Components in Production: X units  
- Vendor On-Time Delivery Rate: X%  
- Production Readiness Status: Green/Yellow/Red  
- Risk Alerts: X active risks

### C. Build Matrix Visualization

- Component-Level Breakdown: Visualization of assembly progress  
- Clear-to-Build (CTB) Status: Indicators for material availability  
- Gantt Chart: Timeline of production stages and dependencies

### D. Vendor Status Panel

- Vendor Name | Component Supplied | Lead Time | Status  
- Color-coded statuses (On Track, Delayed, Critical)  
- Supplier performance metrics and upcoming deliveries

### E. Risk Management Panel

- Top 5 Active Risks: Descriptions, Severity, Mitigation Steps  
- Risk Heat Map: Visual representation of risk impact

### F. Material Forecasting Section

- Inventory Levels: Current stock vs. required stock  
- Predicted Shortages: Forecast of material depletion  
- Supplier Lead Time Trends: Graphical representation

### G. Alerts & Notifications

- Real-time alerts for delays, shortages, or engineering changes  
- Notifications for upcoming deadlines or supplier issues

### H. Interactive Filters and Controls

- Filter by Component, Vendor, or Production Phase  
- Date range selectors for historical analysis

## 3. Functional Description

### Core Features:

- Real-Time Monitoring: Automated data updates for accurate decision-making.  
- Vendor Tracking: Live monitoring of supplier performance and delivery schedules.  
- Risk Visualization: Proactive risk identification and mitigation tracking.  
- Predictive Analytics: Forecasting potential supply chain bottlenecks.  
- Data-Driven Insights: Interactive reports and visual analytics for stakeholders.