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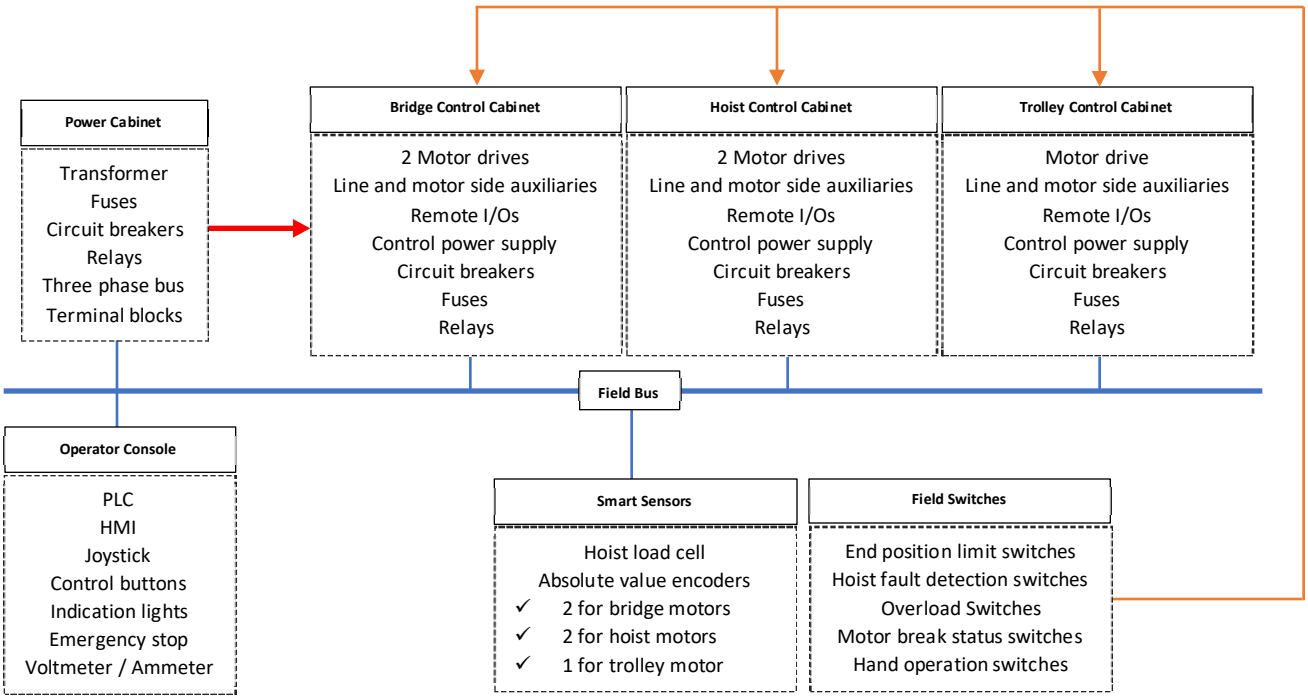
Proposed Solution:



Major Responsibilities:

- Selection of sensors, control and power components
- PLC programming using guidelines of IEC 61131-3
    - Interfacing and integration of peripherals
    - Sequence implementation for manual operation as well as bypass function if required
    - Implementation of interlocks, system protections and alarms
    - Position control for semi-automatic mode
        - Line, area and slot calculation using data from Absolute Value Encoders (AVEs)
        - Tunning of PID controllers
    - Strategy to switch between different motor speeds, modes of operation as well as independent operations of bridge, trolley and hoist mechanisms
- Configuration and parametrization of motor drives as well as synchronization of bridge motors
- Calibration of smart sensors (AVEs and load cells)
- Designing and scripting of high-performance HMI
    - Incorporation of suitable input format for semi-automatic mode
    - Display for system warnings, faults and alarms
    - Provision of real time system position in the form of an animation for operator ease
    - Monitoring screen for real time system position as well as all I/O signals
    - Implementation of access control system for proper authorization
    - Creation of a database to show availability / occupancy of a slot
- Development and implementation of a system testing and verification scheme
- Completion of system design and training documentation
- Management of flexibility during the complete project life cycle to meet any additional requirements of the end-user