Design Specification: QR-Based Control Panel Documentation System

## 1. Objective

Develop a QR-based system linking physical control panels to structured, hosted documentation and data.

Engineers can scan a QR code to instantly access panel-specific files hosted online using GitHub Pages.

#### 2. Target Environment

Designed for field engineers needing fast access to I/O lists, schematics, manuals, and context without login or complex tools. Intended for use in connected environments with internet access.

- 3. System Architecture
- Hosting: GitHub Pages (static site)
- Structure: One folder per panel:

/docs/ (PDFs)

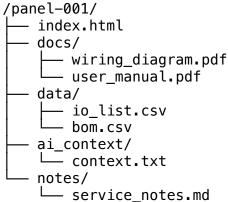
/data/ (CSVs)

/ai\_context/ (text files)

/notes/ (markdown)

- Each folder includes index.html with links and AI-ready context block
- QR codes printed and affixed to panels link to these URLs

# 4. Panel Folder Template



# 5. Key Features

- No login required
- Static hosting with zero runtime cost
- AI-friendly format with prestructured data
- Scalable to many panels
- Works on mobile and desktop browsers

### 6. Deployment Plan

Phase 1: Build folder and file structure

Phase 2: Create HTML pages for each panel

Phase 3: Upload to GitHub and enable Pages

Phase 4: Generate and print QR codes

Phase 5: Field test and feedback collection

- 7. Future Extensions
- Optional login/authentication for secure documents
  User can access webpage to edit/update the available documents assigned to each machine. Possibly multiple in the factory.