

# Requirements

## A. Requirements Document (Draft)

**Title:** Interactive AM Roadmap – Requirements Document

### 1. Introduction:

- **Purpose:** Define the functional and non-functional requirements for an interactive roadmap that can be updated locally and deployed as a self-contained HTML file.
- **Scope:** Focus on program, product, material system data, design tools, documentation, and part acceptance, with an additional CRAD Opportunities module.

### 2. Functional Requirements:

- **Data Update & Management:**
  - Allow users to update roadmap data via a local interface.
  - Support a structured data file (JSON/YAML) for input.
- **HTML Generation:**
  - Automatically compile data into a single HTML file.
  - Embed all necessary scripts and styles for offline functionality.
- **Interactive Display:**
  - Provide dynamic filtering and navigation across the categories:
    1. Program
    2. Product
    3. Material System Qualification
    4. Material System Supply Chain (specific to each product)
    5. Design Tools
    6. Documentation

## 7. Part Acceptance

- **CRAD Opportunities Module:**

- A separate table where material systems or products can be tagged.
- Ability to view all related opportunities per material system.

- **Multiple Views:**

- Main view (grouped by Program and Product).
- Material system-specific view aggregating all related information.

### 3. Non-Functional Requirements:

- **Performance:**

- Fast load times for the interactive HTML file.

- **Usability:**

- Intuitive user interface that requires minimal training.

- **Maintainability:**

- Clear separation of data and presentation layers.
- Well-documented code and build process.

- **Portability:**

- The HTML file should work on modern browsers and from a SharePoint environment without external dependencies.

### 4. Data and Integration:

- **Data Sources:**

- Local file (JSON/YAML) containing roadmap details.

- **Integration Points:**

- Build script to integrate local updates into HTML.
- Mechanism for users to upload updated HTML files to SharePoint.

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- **Data Model:**

- Separate arrays for **programs**, **products**, **materialSystems**, and **cradOpportunities**. Products now include a **programs** field (allowing multiple programs per product), **materialSystems** (IDs), and a **productSupplyChain** field for product-specific supply chain details.
- Material systems list **relatedOpportunities** (by ID) that are displayed by name in the UI.
- **UI Requirements:**
  - Programs view lists programs and their applicable products.
  - Products view displays detailed product information (including associated material systems with their supply chain details). Material systems view shows material details, products using them, and CRAD opportunities by name.

This is the root file directory: C:\Users\alt95\OneDrive\Documents\Additive Manufacturing\Roadmapper