**System Concept Template**

**1. Introduction**

* **Purpose:** Briefly state the purpose of the document and its role in the project.
* **Scope:** Define the boundaries of the system concept and what is included/excluded.

**2. Background and Context**

* **Problem Statement/Opportunity:** Describe the problem or opportunity the system addresses.
* **Mission/Business Objectives:** Summarize the mission goals or business drivers motivating the system.

**3. Stakeholder Overview**

* **Stakeholder Identification:** List key stakeholders (users, operators, maintainers, sponsors, etc.).
* **Stakeholder Needs and Expectations:** Summarize primary needs and expectations as understood at this stage.

**4. System Overview**

* **System Purpose and Goals:** High-level description of what the system is intended to achieve.
* **Operational Scenarios:** Outline key scenarios/use cases demonstrating how the system will be used.
* **System Boundaries:** Define what is inside and outside the system-of-interest.

**5. Top-Level System Architecture**

* **System Context Diagram:** Visual representation showing the system and its interactions with external entities.
* **Major Components and Interfaces:** Identify main system elements and their high-level interfaces.

**6. System Capabilities and Functions**

* **High-Level Capabilities:** List and describe the main capabilities the system must provide.
* **Functional Decomposition:** Break down major functions and allocate them to subsystems/components.

**7. Key Constraints and Drivers**

* **Technical Constraints:** List any known technical limitations (e.g., standards, interoperability, legacy integration).
* **Operational Constraints:** Include environmental, regulatory, or user-imposed constraints.
* **Cost, Schedule, and Performance Drivers:** Summarize critical drivers that will influence trade-offs.

**8. Life Cycle Considerations**

* **Development Approach:** Brief outline of intended development strategy (e.g., incremental, spiral, waterfall).
* **Deployment and Transition:** High-level plan for how the system will be fielded and transitioned to operations.
* **Sustainment and Disposal:** Initial considerations for long-term support and end-of-life.

**9. Risks and Assumptions**

* **Key Risks:** Identify major risks known at this stage (technical, operational, programmatic).
* **Assumptions:** Document assumptions underpinning the concept.

**10. Traceability and References**

* **Traceability Matrix:** (Optional) Map stakeholder needs to system capabilities and functions.
* **References:** List source documents, standards, and related artifacts.

**Recommended Representations**

* **Narrative text** for context, goals, and rationale.
* **Tables** for stakeholder needs, capabilities, and constraints.
* **Diagrams** (context diagrams, functional block diagrams) for architecture and interfaces.

**Summary Table Example**

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| **Section** | **Description** |
| Introduction | Purpose and scope of the system concept |
| Background/Context | Problem statement, mission/business objectives |
| Stakeholders | Key stakeholders, needs, and expectations |
| System Overview | Purpose, goals, scenarios, boundaries |
| Architecture | Context diagram, major components, interfaces |
| Capabilities/Functions | High-level capabilities, functional decomposition |
| Constraints/Drivers | Technical, operational, cost, schedule, performance constraints |
| Life Cycle | Development, deployment, sustainment, disposal considerations |
| Risks/Assumptions | Key risks and underlying assumptions |
| Traceability/References | Mapping and supporting documents |