Requirements Traceability Matrix

> **Source File:** generated-documents\management-plans\requirements-traceability-matrix.md
> **Generated:** 08/07/2025 at 09:42:20
> **Generated by:** Requirements Gathering Agent - PDF Converter

Requirements Traceability Matrix

Generated by adpa-enterprise-framework-automation v3.1.6
Category: management-plans
Generated: 2025-07-05T17:06:15.186Z
Description: PMBOK Requirements Traceability Matrix

Requirement Traceability Matrix

Project: Self-Charging Electric Vehicles (SCEV)

This document traces requirements from the high-level project goals down to specific system components and milestones. It uses a simplified format for clarity, focusing on key traceability. A more detailed matrix could be developed as the project progresses.

Requirement ID	Requirement Description	Type	Source	System Component(s)	Milestone(s)	Status	Ver Met
REQ-1	Reduce range anxiety in electric vehicles.	Business	Project Idea (Problem It Solves)	Advanced Photovoltaic Body Panels, Regenerative Suspension System, Thermoelectric Generation (TEG), AI-Powered Energy Management Unit (EMU)	M1, M2, M3, M4	In Progress	Sim (M1 Pro Test (M2 Mu (M3 Perf Met
REQ-2	Increase EV viability in areas with limited charging infrastructure.	Business	Project Idea (Problem It Solves)	Advanced Photovoltaic Body Panels, Regenerative Suspension System, Thermoelectric Generation	M1, M2, M3, M4	In Progress	Sim (M1 Pro Test (M2 Mu (M3

Requirement ID	Requirement Description	Type	Source	System Component(s)	Milestone(s)	Status	Ver Met
				(TEG), AI-Powered Energy Management Unit (EMU)			Perf Met
REQ-3	Reduce strain on the electrical grid.	Business	Project Idea (Problem It Solves)	Advanced Photovoltaic Body Panels, Regenerative Suspension System, Thermoelectric Generation (TEG), AI-Powered Energy Management Unit (EMU)	M1, M2, M3, M4	In Progress	Sim (M1 Pro Test (M2 Mu (M3 Perf Met
REQ-4	Reduce charging costs and inconvenience for EV owners.	Business	Project Idea (Problem It Solves)	Advanced Photovoltaic Body Panels, Regenerative Suspension System, Thermoelectric Generation (TEG), AI-Powered Energy Management Unit (EMU)	M1, M2, M3, M4	In Progress	Sim (M1 Pro Test (M2 Mu (M3 Perf Met
REQ-5	Develop high-efficiency photovoltaic body panels.	System	Project Idea (Core Technologies)	Advanced Photovoltaic Body Panels	M1, M2, M3	In Progress	Mat test Pow out test Rea ene gen data
REQ-6	Implement a regenerative suspension system.	System	Project Idea (Core Technologies)	Regenerative Suspension System	M1, M2, M3	In Progress	Effi test Ene con test Rea ene

Requirement ID	Requirement Description	Type	Source	System Component(s)	Milestone(s)	Status	Ver Me
							gen dat
REQ-7	Integrate thermoelectric generation (TEG) modules.	System	Project Idea (Core Technologies)	Thermoelectric Generation (TEG)	M1, M2, M3	In Progress	Effi test Pow out test Rea ene gen dat
REQ-8	Develop an AI-powered energy management unit (EMU).	System	Project Idea (Core Technologies)	AI-Powered Energy Management Unit (EMU)	M1, M4	In Progress	Alg acc test Dat log ana (M4
REQ-9	EMU accurately predicts energy generation.	System	Project Idea (Core Technologies - EMU)	AI-Powered Energy Management Unit (EMU)	M4	In Progress	Pre mo acc test
REQ-10	EMU optimizes energy flow between battery and motor.	System	Project Idea (Core Technologies - EMU)	AI-Powered Energy Management Unit (EMU)	M4	In Progress	Rea ene opt test
REQ-11	EMU provides real-time user feedback on energy generation.	System	Project Idea (Core Technologies - EMU)	AI-Powered Energy Management Unit (EMU)	M4	In Progress	Use inte test

Legend:

- **Requirement ID:** Unique identifier for each requirement.
- **Requirement Description:** Clear and concise description of the requirement.
- **Type:** Business (high-level goals), System (functional requirements), etc.
- **Source:** The document or section where the requirement originated.
- **System Component(s):** The system component(s) responsible for fulfilling the requirement.
- **Milestone(s):** The project milestone(s) related to the requirement.
- **Status:** In Progress, Completed, etc.
- **Verification Method:** How the requirement will be verified.

This RTM provides a high-level overview. More detailed requirements and traceability will be documented throughout the project lifecycle using a more comprehensive tool if necessary.
