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EFFICIENT PROJECT MANAGEMENT IN MICROSATELLITE DEVELOPMENT: AN INTEGRATED APPROACH

**Abstract**

This paper proposes an exhaustive examination of the methodology and lifecycle crucial for the development of microsatellites, presenting an integrated approach to manage these projects efficiently. Beginning with the project startup phase, it emphasizes the significance of assembling a multidisciplinary team, clarifying role definitions, and devising effective communication strategies. The narrative progresses to conceptual planning, spotlighting stakeholder identification, requirements elicitation, and the conduct of conceptual and feasibility studies that culminate in the System Requirements Review (SRR). Transitioning into the preliminary design phase, the discussion highlights the development of system architecture, functional analysis, performance specifications, and the selection of preliminary components, culminating in the Critical Design Review (CDR) process. This phase is critical for transitioning from preliminary to final design while ensuring both technical and financial viability. The assembly, integration, and testing (AIT) phase is elaborately discussed, detailing the practical steps necessary for microsatellite assembly, component integration, and exhaustive testing to guarantee deployment readiness. The document highlights Key Decision Points (KDPs), technical reviews, risk management strategies, and software recommendations, offering an integrated perspective on project management that is pivotal for the successful completion of microsatellite projects. Targeted at project managers, engineers, and stakeholders engaged in microsatellite development, this paper aims to be a comprehensive resource, imparting best practices, methodologies, and strategies for efficient project management.