

# Evaluating the Impact of the QuARS Requirements Analysis Tool Using Simulation

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**Abstract.** Adopting new tools and technologies on a development process can be a risky endeavor. Will the project accept the new technology? What will be the impact? Far too often the project is asked to adopt the new technology without planning how it will be applied on the project or evaluating the technology's potential impact. In this paper we provide a case study evaluating one new technology. Specifically we assess the merits of an automated defect detection tool. Using process simulation, we find situations where the use of this new technology is *useful* and situations where the use of this new technology is *useless* for large-scale NASA projects that utilize a process similar to the IEEE 12207 systems development lifecycle. The method can be applied to assessing the impact (including Return on Investment), break even point and the overall value of applying any tool on a project...