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Sommario/riassunto	In order to meet the future vision of robotic missions, engineers will face intricate mission concepts, new operational approaches, and technologies that have yet to be developed. The concept of smaller, model driven projects helps this transition by including life-cycle cost as part of the decision making process. For example, since planetary exploration missions have cost ceilings and short development periods, heritage flight hardware is utilized. However, conceptual designs that rely solely on heritage technology will result in estimates that may not be truly representative of the actual mission being designed and built. The Laboratory for Spacecraft and Mission Design (LSMD) at the California Institute of Technology is developing integrated concurrent models for mass and cost estimations. The purpose of this project is to quantify the infusion of specific technologies where the data would be useful in guiding technology developments leading up to a mission. This paper introduces the design-to-cost model to determine the implications of various technologies on the spacecraft system in a collaborative engineering environment. In addition, comparisons of the benefits of new or advanced technologies for future deep space missions are examined.