

Assurance of Space Mission Autonomy

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Deep Impact
July 4th, 2005

10.2 km/s
relative
velocity

“The impactor ... took over its own navigation and maneuvered into the path of the comet.”

<https://solarsystem.nasa.gov/deepimpact/mission/factsheet-postencounter.pdf>

Curiosity Mars Rover, 2016-present

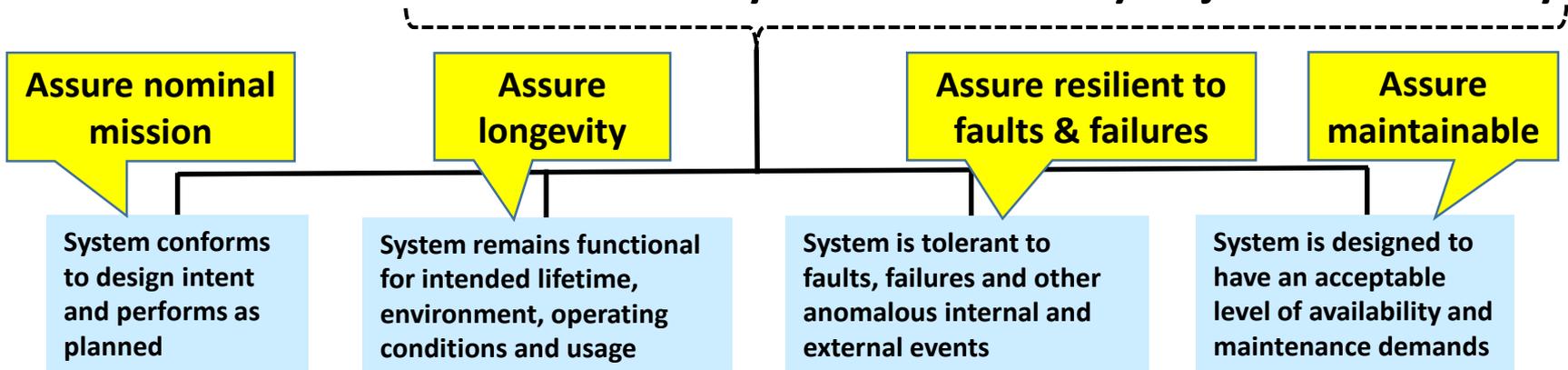
Top-ranked target

Alternative targets

“A.I. software has helped it zap dozens of laser targets ...when the ground team was out of contact with the spacecraft.”

<https://www.jpl.nasa.gov/news/news.php?feature=6879>

Assurance – follows NASA’s Reliability & Maintainability Objectives Hierarchy



<https://sma.nasa.gov/news/articles/newsitem/2014/12/04/osma-introduces-new-objectives-based-strategies>