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Harland, David M., Lorenz, Ralph

Space Systems Failures

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In the 1960s and 1970s deep space missions were dispatched in pairs in case one was lost in launch or failed during its journey. Following the triumphs of the Viking landings on Mars in 1976 and both Voyagers spacecraft successfully surveying the outer giant planets of the Solar System, it was decided by NASA to cut costs and send out just a single probe. Although Magellan successfully mapped Venus by radar, it suffered from problems during the flight. Then came the loss of Mars Observer, whose engine exploded as it was preparing to enter Mars' orbit because it was using technology designed for Earth's satellites and the engine was not suited to spending several months in space. Later came the high-profile losses of Mars Climate Observer and Mars Polar Lander - a consequence of the faster, better, cheaper philosophy introduced by Dan Goldin in 1993. Even the highly successful Galileo mission suffered a major setback when its high-gain antenna (also based on satellite mission suffered a major setback when its high-gain antenna (also based on satellite communication technology) failed to deploy fully, greatly diminishing the craft's radio transmission capabilities, forcing the ground crew to re-programme the on-board computer to enable it to fulfil its mission and provide stunning images of Jupiter and its moons.

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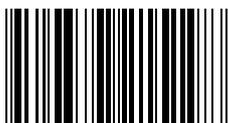
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