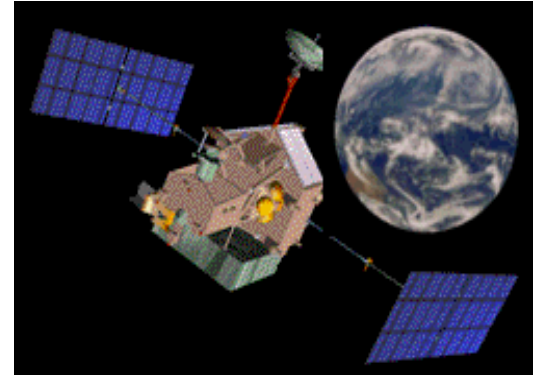




a.i. solutions' Innovative Automation Efforts Help Cut TRMM Operating Costs In Half

The Tropical Rainfall Measuring Mission (TRMM) is a NASA satellite used to determine rainfall in the tropics and subtropics of the Earth. In coordination with other satellites in NASA's Mission to Planet Earth, TRMM processes the interactions between water vapor, clouds and precipitation that is central to regulating the climate system. TRMM does this not just by providing rainfall data but, more importantly, by providing information on heat released into the atmosphere as part of the process that leads to rain. All of this information is critical to our understanding of the causes and effects of global warming on our climate and our planet.



The Customer

NASA's Tropical Rainfall Measuring Mission (TRMM)

The Challenge

NASA Budget reductions mandated that operating costs for TRMM be reduced.

The Solution

a. i. solutions' reengineering efforts using AutoFDS, combined with other TRMM team member efforts, have cut operating costs significantly.

The Results

The reengineering efforts of the TRMM team resulted in a savings of 56%. This dramatic reduction in operating costs makes TRMM a highly attractive program for continued operations.

TRMM has been providing valuable scientific data for years beyond its planned mission life. To further bolster the returned value of TRMM's data in this age of NASA cost reductions, it was necessary to minimize the cost associated with operating the satellite. Understanding the importance of this mission, **a.i. solutions** and other TRMM team members were up for the challenge and took on several major reengineering efforts, resulting in a dramatic savings to the TRMM program.

The Results

In FY03, the cost of TRMM operations and science data processing was approximately \$18.8 million. In FY06, the budget is \$8.2 million. **This is a cost savings of 56.4%**. Part of this cost reduction was enabled due to reengineering efforts conducted by **a.i. solutions**, the first of the TRMM team members to deploy automation for the program.

The Automated Flight Dynamics System (AutoFDS). AutoFDS is used for maneuver planning and routine Flight Dynamics Facility (FDF) product generation. **a.i. solutions** prototyped AutoFDS in FY02, and it was fully operational at the end of FY03. Before AutoFDS was in use, the FDF was required to produce a host of products, including scheduling, acquisition, and maneuver planning, in order to produce the required data for operations. After the installation of AutoFDS, the only product generated in the FDF for TRMM is the orbit ephemeris. From this product only, AutoFDS produces all other products required for operations. Ultimately, AutoFDS reduced the need (and cost) for maintenance of 13 legacy FDF applications, and provided a solution that corrected at least 11 errors in the legacy products previously being used.

This reengineering activity alone resulted in a direct cost savings to the FDF. All reengineering efforts were accomplished during regular operations activities and posed no impact to schedule. **a.i. solutions** and other TRMM team members were recognized by the customer for their efforts on this project.

The year 2005 brought erratic weather patterns that spawned record setting tropical storms, hurricanes, and tornadoes. We hope that the TRMM program can continue to provide vital climate information and analysis that can help us better understand and predict these weather patterns.

Reduced Costs. More information. More options. Better decisions.

a.i. solutions is proud to be a part of the TRMM Team.