

50th IAA SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE
ACTIVITIES (D5)

Safety and Quality for “Low Cost” Space Programs (1)

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FROM NATIONAL TO INTERNATIONAL MARKET

Abstract

Since 1991, INVAP’s Space Division has been in charge of developing and implementing space systems for the Argentine National Government through the National Space Agency (CONAE) and the National Telecommunications Operator, ARSAT. INVAP has been the prime contractor for the provision of all LEO Satellites for CONAE and Telecommunication GEO satellites for ARSAT. As prime contractor, INVAP has fulfilled the need of ”giving solutions to the technological challenges that the Argentinian State cannot face internally elsewhere.”

The challenge that INVAP faces today is to take advantage of the expertise, ”know how” and recognition obtained so far in order to be able to develop competitive space product, in terms of performance and cost, for the international market.

This abstract analyzes product assurance contribution to this goal through the expansion and deepening of quality and safety culture.

Some of the contributions from the Product Assurance Area are:

- Together with the Systems Engineers, identify those opportunities to replace the physical satellite models (thermal or structural) by mathematical models.
- Empower the technical and engineering staff in their tasks through continuous training in safety and quality assurance aspects, so the independent Safety and quality assurance aspects could be optimized.
- Implement the criterion of Risk Guided Product Assurance to focus the Product Assurance resources in the most critical equipment (e.g.: primary payloads of the mission and new developments).
- Participate in the process of outsourcing the costs of the evaluation of non-space qualified EEE parts, to existing country organizations.
- Work along with suppliers to reduce the costs of poor-quality by training them in good manufacturing practices for flight components.
- Implement informatics tools to improve the process of document generation.
- Improve the system through capitalization of the lessons learned and knowledge management.

There is no a single way to reduce space program costs, but a systemic approach combining these guidelines can lead us to success.

Each of these practices and directives must be driven from the top management of the company, achieving the commitment of the organization.