

Addressing Public Awareness to Improve Access to and Use of Space Applications



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Abstract

The international space community has established multiple coordination efforts to expand the dissemination and use of space-based applications to address societal needs, particularly in developing countries. Case studies illustrate that lack of human, technical and financial resources are exacerbated by cultural and institutional barriers that limit the extent to which these applications are successfully incorporated into decision-making.

Such challenges may be symptomatic of a widespread lack of awareness in the general public and decision making communities of space activities and their link to valuable space applications. Through literature review, expert interviews and case studies, this research considers the potential role of lack of public awareness as a non-technical barrier in the access to and use of space applications.

Background: Awareness and Space Capacity-Building

- Space-related capacity-building efforts aim to increase the use of space technology in helping address societal needs worldwide.
- The limitations of technology-driven approaches (Ref. 1) have highlighted the critical role of non-technical aspects in the adoption of technology solutions (Ref. 2).
- Technology diffusion theories incorporate awareness as a prerequisite for potential users to begin to see technology as solutions to their needs (Ref. 3).

Public awareness/outreach activities may be the first opportunity to expose potential users to the benefits of space technology, particularly if they are not already part of the target audience of capacity-building efforts.

- Broader awareness of space applications beyond that of potential users – general public and decision makers – deserves greater examination.
- Education and outreach efforts generally aim to increase political support for space activities, and promote studies in science, technology, engineering and math (STEM) fields (Ref. 2).

Greater awareness also supports the balance of technology push and user pull for technology solutions, and the development of favorable conditions for these solutions to be incorporated into decision-making.

Key Findings

Public awareness efforts can help advance the access to and use of space applications by:

1. Exposing potential users to the benefits of space applications and fostering valuable connections among user communities;
2. Influencing decision makers towards creating favorable conditions to make good use of trained personnel and technology solutions, specifically with respect to:
 - the **enabling environment** – the framework conditions, incentives and governance in place (Refs. 2, 3), and
 - the investments needed to account for **costs of organizational change** (Ref. 4).

Recommendations

- Improve coordination between capacity-building and awareness efforts when targeting specific audiences
- Develop hybrid programs (with components of capacity-building and outreach) that attract different audiences
- Encourage the primary agencies responsible for space applications to mount an awareness campaign
- Foster greater interaction among decision makers, users and general public
- Develop measures of awareness (not just opinion) at institutional, national and regional levels
- Recognize that outreach/awareness efforts are important not just to share news and findings, but also in support of efforts to promote the access and use of space applications

References

- (1) Secara, T., Reetz, S. and De Mey, S. "Satellite Applications Take-up in Europe: An Analysis of Three Case Studies with Regional Authorities," Paper presented at the 2012 International Astronautical Congress.
- (2) Organisation for Economic Co-operation and Development, *Space 2030: Exploring the Future of Space Applications*, 2004.
- (3) Organisation for Economic Co-operation and Development, *The Challenge of Capacity Development: Working Towards Good Practice*, 2006.
- (4) "Eurisy Position Paper: Creating Sufficient User Pull to Secure the Benefits of Satellite Services for Society," October 2010.

The level of awareness impacts the wider use of geo-technologies for solving problems in many societal benefit areas and their applications. - Hilcea Ferreira, Senior Technologist, Instituto Nacional de Pesquisas Espaciais, Brazil

