POSITION STATEMENT

REMOTE SENSING

Adopted by the IEEE-USA
Board of Directors, 20 June 2008

Since its formation in 1958, the National Aeronautics and Space Administration has expanded its space activities from a focus on space exploration to encompass many related areas, including development of innovative aerospace remote sensing technologies. The ability to provide remote sensing of the Earth's surface and atmosphere is one of the truly unique capabilities of the nation's aerospace program. These remote sensing technologies detect and record electromagnetic radiation that is reflected or emitted from the surface of the Earth and the nearby environment. The collected data is used by various Federal agencies to increase our understanding of the earth, as well as for defense purposes. For instance, civil airborne and satellite remote sensing systems can detect air, ground and water pollution due to spills caused by pipeline breaks, ground transportation accidents, and shipwrecks. These sensors are also crucial parts of the system monitoring global climate change, which will become the primary environmental issue in the next decade. All of these systems must be interconnected in the future Global Environmental Observing System of Systems (GEOSS).

The U.S. government must adopt policies that balance private sector growth with public sector capability to achieve an efficient, internationally competitive remote sensing industry; continue its vital measurement programs; and compete with growing and aggressive foreign remote sensing business activities. Vital to this industry is the training of experts in the applications of satellite remote sensing which requires an educational research component of this initiative.

Toward this end, IEEE-USA recommends that Congress promote remote sensing policies and provide adequate funding for programs that:

- Ensure maximum availability of the government's aerospace remote sensing data for use by the U.S. private sector and educational institutions

- Support the worldwide preservation of appropriate segments of the radio-frequency spectrum for use by Earth and atmosphere observation systems

- Support the use of civil remote sensing systems and adequately maintain these programs within NASA and NOAA

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- Support development of remote sensing applications within federal agencies that have a strong national mandate to provide new operational products and services

- Encourage availability of near-operational unclassified remote sensing products and services to non-NASA agencies

- Support remote sensing calibration and validation activities within NASA and non-NASA agencies

- Encourage the combined use of advanced remote sensing technologies, such as hyperspectral imaging, radar imaging and laser imaging

- Encourage federal agencies to develop improved methods for sharing remote sensing assets and services among each other

- Encourage private investment in U.S. commercial remote sensing ventures

- Promote the creation of data systems for the processing and analysis of satellite data that are interoperable with both existing and planned data systems.

- Encourage, advocate, fund and support using remote sensing data products as an educational tool for all age levels and in particular in training the graduate level scientists to continue this research tradition in satellite remote sensing.

This statement was developed by the IEEE-USA Committee on Transportation and Aerospace Policy and represents the considered judgment of a group of U.S. IEEE members with expertise in the subject field. IEEE-USA advances the public good and promotes the careers and public-policy interests of the more than 215,000 engineers, scientists and allied professionals who are U.S. members of the IEEE. The positions taken by IEEE-USA do not necessarily reflect the views of the IEEE or its other organizational units.