Viability and Survivability of the U.S. Remote Sensing Industry as a Function of U.S. Policy

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My topic this afternoon, that of the viability and survivability of the U.S. remote sensing private sector is, of course, a central issue of concern and disquietude --- if not vexation --- for all commercial organizations already engaged in, or about to be engaged in remote sensing activities. The prime culprit for this patina of apprehension that hovers just above the board meetings of the largest and the smallest remote sensing companies is not market uncertainty. Nor is it technological dubiety. Those, indeed, have been the "usual suspects," always hitherto present as midwives at the birth of any new industrial venture. But not this time.

I will not detail the random walk that has marked the government-to-commercial civilian satellite remote sensing effort in this country, from launch of Landsat-1, a full quarter of a century ago, through today. For those of us who have partaken of that Long March, the memory is still as current and real, as it is painful. Suffice it to say that here, in 1997, we find ourselves at the brink of a true commercial era in remote sensing. U.S. companies as EarthWatch, OrbImage, Resource21, and Space Imaging EOSAT, are all poised to orbit commercial sensors that will return high-resolution, stereo, and multispectral imagery acquired over all points of the Earth. In fact, within the past month, OrbImage has launched OrbView-2, carrying its ocean-color sensor SeaWiFS, and we will shortly see commercial applications of that effort. I must note however, that commercially, we are where we are, in spite of a 25-year agglomeration of governmental decisions, non-decisions, and severe, not benign, neglect.

The U.S. companies noted here have placed hundreds of millions of their shareholder dollars at risk. These dollars have been used to both assess the image information market and to fabricate the instruments to penetrate that market. A result of these efforts has been to minimize, to the greatest extent possible, failure of the business due to "metal and market" unknowns. Perched as we are then, on this brink of a true commercial era in remote sensing, the major uncertainty has turned out to be our own federal government.

And here allow me to acknowledge the fact that when we deal with space-derived imagery we deal with a very special product indeed --- a fact that needs no further verbalization to this audience. That assertion notwithstanding, it must also be acknowledged that it is to the ultimate benefit of both U.S. industry and our government to create and maintain an atmosphere and condition of mutual dependence and trust, whereby barriers are removed and not erected. Examples of the former, that of removing barriers, will be detailed by the DoD speakers who will follow me to the dais.

As an example of the latter, that of erecting barriers I give you the proposed regulations being promulgated by NOAA, the National Oceanic and Atmospheric Administration, regarding its procedures to license private Earth remote sensing space systems under Title II of the Land Remote Sensing Policy Act of 1992. Most recent proposed regulations, dated 13 August 1997, give the definition of "Parties" to a licensing process, which heretofore were the Secretaries of Commerce, Defense, and State--as now being all of the above, plus "...the head of any other Federal organization, as appropriate, recognized by the Secretary of Commerce as being involved in any proceedings between the U.S. Government and a licensee/applicant." What this means is that any of the twelve government departments or 46 or so independent federal agencies can intersperse themselves between a hopeful U.S. commercial space data provider and a license to provide that space data. It pains me to report that this new wording was proposed by DoD, the single federal agency that happens to be doing the most to aid the private sector in its commercial remote sensing ventures. As recent examples of this assertion, I give you the Warfighter-1 award to Orbital Sciences Corporation to allow its subsidiary OrbImage to add a

hyperspectral imager onto its Orbview-3 spacecraft and provide that imagery to DoD. Further, I give you the National Imagery and Mapping Agency, NIMA, and its Commercial Office, reporting directly to Admiral Jack Dantone, NIMA Director.

The higher levels of many components of DoD and the civilian agencies as well, understand that their missions can only be enhanced by a strong commercial U.S. industry that can provide alternative, complementary imagery sources. We recognize the impact that legacy systems, legacy philosophies, and legacy personnel can have in forestalling and otherwise inhibiting new procedures and policies. But we feel certain that the strong commercial commitment being made by administrative levels of organizations as NIMA is a sure sign of welcome change change that we hope will quickly be accepted as it trickles down the bureaucratic food chain.

As to civilian agencies, I'm happy to report that times they are a'changing there as well. NASA has approached NARSIA and has asked us to provide "advice and recommendations on how to best shape a scientific initiative in the NASA Office of Mission to Planet Earth that will address top priority needs of the commercial remote sensing industry." We have already formed a steering committee and two working groups, and have received several briefings from NASA officials and program managers. We note NASA's recognition that, although they will provide us whatever background and programmatic information we require, NASA, again from their letter of invitation, "...would appreciate that the review and advisory process would be run by industry, address industry concerns, and establish industry priorities." This means that NARSIA will be briefing the NASA Administrator directly, without benefit of the usual layers of filters applied, as briefings proceed up to the boss --- a presentation we indeed look forward to. As an aside, I invite every U.S. company present to join NARSIA and participate with us in developing our response to NASA's request.

We firmly believe that there is a major role for both private sector space data providers and private sector value added firms in pursuing the whole spectrum of Earth-viewing applications for the whole spectrum of Earth-viewing customers and end-users. We are certain that the market is there and that a proven technology is ready and waiting for us to take advantage of that market. In truth, the only thing that stands in our way is an obdurate governmental bureaucracy clinging to an atavistic policy mind-set --- and these encumbrances, thankfully, are ebbing dramatically. Five years from now, when commercial birds aloft will not be news, we will all agree that these were but expected times of transition.

We assert that the entire remote sensing space and ground segments are now commercially viable. From launchers, to spacecraft, to sensors, to command and control, to ground station throughput, to initial processing and rectification, to geolocation, to data enhancement and manipulation, to image product fusion, to GIS image information supplementation, to image product analysis, and finally to customer and end-user delivery. The whole of this continuum is the proper purview of our commercial remote sensing entities.

The near-term viability of these nascent commercial remote sensing companies is dependent largely upon the applicability of their service and product projections, and the validity of their perception of the image information needs that define the global geospatial marketplace. The long-term survivability of these nascent commercial remote sensing companies, however, is dependent largely upon a U.S. government policy written by those who understand:

(1) that the appropriate role of government is to fund high-risk, high-cost, pre-competitive research and development and technology;

(2) that government works for the people, not the other way around;

(3) that the people have not constructed a federal bureaucracy to compete with American enterprise; and

(4) that operational applications of technology must always be in the hands of the private sector.

Please know that, without question, there will be a significant, global remote sensing industry. The only real question is, "Will it be largely populated by U.S. companies, or will we abdicate our leadership role

as we have so often done in the past, and allow the rest of the world to overtake us, yet again?" Thank you for your kind attention.

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