Online Journal of Space Communication

Volume 2
Issue 5 *Satellites Address the Digital Divide (Fall 2003)*

Article 18

June 2021

Bridging the Digital Divide: Towards a New Paradigm

Virgil Labrador

Follow this and additional works at: https://ohioopen.library.ohio.edu/spacejournal

 Part of the Astrodynamics Commons, Navigation, Guidance, Control and Dynamics Commons, Space Vehicles Commons, Systems and Communications Commons, and the Systems Engineering and Multidisciplinary Design Optimization Commons

Recommended Citation

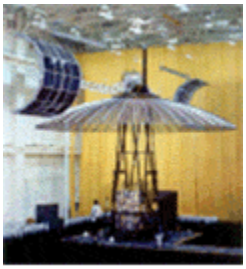
Labrador, Virgil (2021) "Bridging the Digital Divide: Towards a New Paradigm," *Online Journal of Space Communication*: Vol. 2 : Iss. 5 , Article 18.
Available at: https://ohioopen.library.ohio.edu/spacejournal/vol2/iss5/18

This Critical Perspectives is brought to you for free and open access by the OHIO Open Library Journals at OHIO Open Library. It has been accepted for inclusion in Online Journal of Space Communication by an authorized editor of OHIO Open Library. For more information, please contact deborded@ohio.edu.

Bridging the Digital Divide: Towards a New Paradigm

Virgil Labrador

My direct experience in the "digital divide" was when I was marketing director for a band-new state-of-the-art program origination and satellite transmission facility in Singapore seven years ago in 1996. Our first and anchor client was the highly successful Discovery Network--which housed in our facility the first all-digital channel to the Asia-Pacific market.



NASA's ATS-6

Digitalization enabled Discovery to have multi-feeds to different countries--thus there was a Discovery Japan, Discovery Australia, etc. using only one transponder instead of several if transmitted through analog means. Each channel had its own programming dubbed in different languages and had the ability to insert localized advertising.

At that time this was a revolutionary way of distributing programming to a very culturally diverse and geographically spread out region. Previously, the first Direct to Home (DTH) satellite broadcast system in Asia, STAR TV (owned by News Corp. out of Hong Kong)--believing there was a "Pan-Asian" market--broadcasted the same programming all over Asia, with disastrous results. The concept that foreign programming can be readily exported to various Asian countries probably did more to fuel anti-satellite broadcast regulations that exists till today in Asian countries that are over-protective of their national interests.

Discovery's unique approach to the Asian market and its savvy use of digital technology to customize programming to fit the sensitivities of the various markets it served in Asia made it one of the most successful networks in the region. But the sobering fact was that even with advances in satellite technology and digitalization--the great majority in Asia have no access to even a television set. At that time the largest markets in Asia--China and India TV penetration was less than 40 percent of the population--and even those with access to TVs--60 percent were black and white sets. So, had as I tried, it was a difficult sell to Indian ad other Asian broadcasters the benefits of digital technology when their needs are the most basic.

Although a very encouraging start, such efforts just illustrates how far we still have to go to bridging the digital divide--especially in developing countries. In the early 1980s UNESCO declared a "New World Information and Communication Order (NWICO)" proclaiming the passing of the old paradigm of top-down communication that divided the world into "information-rich" and "information-poor" countries. But other than accumulate a prodigious amount of literature on the subject, the development sector (which includes international development organizations, government and non-government organizations and others) had made very little inroads in actually bridging the gap, much less effecting a new world order.

Perhaps before we even address the "Digital Divide," we need to address the chasm between the commercial sector and the non-commercial sectors and somehow effect partnerships and joint-activities that could help spread the benefits of satellite technology to those not only who can afford it--but those who can't--which in most cases are the ones who need it most.

Much has been written about the potential of satellite technology to "leapfrog" the digital divide. Satellites with its capability to reach large areas of the world (up to one-third of the world) without need for extensive (and expensive!) terrestrial infrastructure can reach even the remotest regions of the earth at a fraction off the cost of other media.

DTH satellite broadcasting actually had its humble beginnings as a partnership between various commercial, government and non-government organizations in the early 70s. The now-famous SITE project (Satellite Instructional Television Experiment) beamed educational programs to thousands of poor Indian villages through NASA's Applications Technology Satellite (ATS) - 6. ATS-6 was built by Fairchild Space and Electronics Company for NASA. The project was a cooperative effort with the Indian Space Research Organization (ISRO) and numerous non-governmental organizations at the grassroots level. The signals from ATS-6 were received by locally-made 3 meter dishes providing vital family planning, health and other development information to the Indian masses.

SITE dish in India

Aside from SITE, ATS-6 was also used to broadcast educational programs in Alaska and the Applachian mountains in the U.S. among others. The lessons learned from these experiences were to prove invaluable to the later commercial development of DTH services in Europe, Asia and the US.

It is one thing to continually criticize the status quo and not really do much of anything to help bridge the digital divide. But there are many ways in which almost everyone can help contribute to lessening the current disparity in access to information.

Several initiatives lately are decidedly commercial but with a very egalitarian mission. Perhaps the most notable is the Worldspace Radio system that aims to provide satellite radio and multimedia services to developing countries in Africa, Asia and Latin America. A brainchild of Noah Samara, an Ethiopian-born US immigrant, they have launched two satellites so far, Afristar and Asiastar providing satellite radio services to Africa and Asia, respectively.

Two mobile satellite telephone initiatives are making inroads in the Middle East and Southeast Asia. Departing from the grandiose schemes of global coverage by IRIDIUM and others -- Thuraya and ACES chose to focus on a geographic region--the Middle East and Southeast Asia respectively. They use similar technologies--a dual-band GSM and satellite phone can roam in the GSM network just like an ordinary cell phone and utilize satellite technology when outside cellular networks.

The interesting application of the both the ACES and Thuraya systems is the concept of fixed terminals in kiosks or gateways which can be located in villages providing basic telephone (or even INTERNET) service to previously unreached by any telecommunication medium.

The results could be dramatic. As many development studies have shown the introduction of even one telephone line in a village can drastically alter the economic conditions and way of life of villagers. A telephone can provide instantaneous access to vital market, weather, news and other information and invaluable contact with the outside world.

But given the major downturn in the satellite communications industry, efforts to improve access to information such as the abovementioned are in jeopardy unless it receives some support from the development sector. Of the three--only Thuraya is in good financial footing--partly because it is serving a relatively affluent region. Worldspace and ACES will probably need some public funding or international development aid support in order to survive. There is some precedent to this. The Thai satellite operator, Shin Satellite received a loan and some concessions from the U.S. Export-Import bank to finance its IPSTAR broadband satellite due for launch this year.

Conversely, and perhaps more importantly, many local development initiatives need some commercial support. Satellite technology is a very expensive option to most community development and education programs and are therefore rarely considered.

With a huge glut in capacity of commercial satellites, we actually have a unique opportunity here for partnership which would allow development-oriented, non-commercial use of some satellite capacity. This is not new to the industry. In 1984, INTELSAT had a special program as part of its twentieth anniversary celebrations called Project SHARE (Satellites for Health and Rural Education). The project lasted three years and provided free satellite transponder capacity for health and educational programs.

Can you imagine the impact if commercial satellite operators provide even only a fraction of their unused capacity for underserved and "information-challenged" regions and development projects? For satellites to fulfill its promise as a medium that will help bridge the digital divide would require the concerted effort of both commercial and non-commercial sectors. The synergy from such a partnership would go a long way towards bridging that proverbial gap between the information- "haves" and "have nots."

Virgil Labrador is the editor of Satnews Daily and Weekly editions, the International Satellite Directory and the monthly e-zine, SATMAGAZINE. He has worked in various capacities in the satellite industry, more recently, as marketing director of the Asia Broadcast Center in Singapore--a full-service teleport owned at that time by US broadcasting company, CBS. He has co-written several books on media management and communications policy and is currently working on a history of the communications satellite industry.