

Summary Report for AIAA ICSSC 21 Session plenary B

Session and Session Chair:

Plenary Session B

Title "Emerging Applications and Services and Satellite Design for New Era"

Chaired by Dr. T. Butash (BAe SYSTEMS)

Session Organizer: Dr. Susumu Kitazume (JEPICO Corporation)

Date and Time: April (Wednesday) 14:00 ~ 16:00pm

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Session Panelist and Presentation:

- 1) Mr. M. Kawachi General Manager Satellite Systems Division MELCO
Space Activities in Mitubishi Electric Co.
- 2) Dr. E. Ashford, Vice President, Technology Development SES GLOBAL
(Former Lockheed Martin Executive Vice President)
Interactive TV via Satellite
- 3) Mr. Chris Hoever, Executive Vice President and Chief Engineer SSL
Satellite System Reliability
- 4) Dr. Ali Atia, President & CEO Space System Group, Orbital Science International
Existing and Emerging Services and Applications for GEO Satellites
- 5) Dr. Kurt Campbell, Senior Vice President CSIS (Center for Strategic and International
Studies) absent due to Iraq crisis
- 6) Mr. M. Inagaki, Senior Vice President and General Manager NEC TOSHIBA Space
Systems Ltd,
Future Trend of Satellite Communications in Internet World

Presentation Summary and Discussion

It was presented and discussed by all panelists that Emerging Applications and Services and Satellite Design for New Era such as the satellite internet, broadband satellite communications, geostational satellite positioning system, total communications network possibility, and satellite applications network. In this article, due to the restriction of publication role, we can address only brief summary as a personal impression we can get it into this article. If you would like to see more detail presentation,

Please visit to : <http://www.ics-inc.co.jp/aiaaicssc21/>

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- 1) Space Activities in Mitsubishi Electric by Mr. Kawachi

Mr. Kawachi has introduced the satellite development history in MELCO from when Japanese space development started in 1969 to now including wide range of satellite types like ETS, DRTS, USERS, SERVIS and so-on. And MELCO Satellite launch manifest was also introduced by chart.

He also addressed how to get into international satellite market by using their own capability such as OPTUS and finally addressed the development activity for MELCO DS-2000 BUS as a future vision of MELCO's strategy.

2) "Interactive TV via Satellite" by Dr. E. Ashford, Vice President, Technology Development SES GLOBAL (Former Lockheed Martin Executive Vice President)

Dr. Ashford had introduced the organization and strategy of SES Global as the Worldwide Satellite operator about the future strategy of SES Global that is the worldwide satellite communication Operator, and audiences interest it. He has introduced the SATMODE system that is the satellite return link system using Ka and Ku-band frequency same as that of the satellite broadcasting system.

ESA and the Europe industrial world invest to this venture business by a unit of 50%, respectively, and SES ASTRA takes the leadership, and is furthering development, and is a satellite broadcasting receiving system always connectable by adding SET UP BOX and Antenna as a ground terminal at the low price below 50Euro. In the first stage of business development, the Europe area is the target domain to start this service, a plan to make it spreading through the worldwide, the organization of SES GLOBAL should be used for and expand the business domain to the area of Asia. And it was impressive to have rounded off the feature with the following texts.

As a Conclusion, he has stated that:

- Interactive TV using a satellite return link promises to become a significant new source of revenue for broadcasters and satellite operators, while providing a new and useful service to consumers.
- The concept of an inexpensive return link via satellite, based upon open specifications, could result in SATMODE becoming a de-facto world standard.

3) Satellite System Reliability by Mr. Chris Hoever, Executive Vice President and Chief Engineer SSL

Mr. Chris Hoever had developed the argument which can express a theory about the state of the improvement in reliability of a satellite and a satellite system from the lesson learn of past example of fault, as a future reference of the satellite development industry.

And he has also addressed the cost sharing that who should pay the cost for the improvement in reliability of satellite and satellite system? Even if a satellite manufacturer pay that cost at the time of development, It is happened that the satellite price should become higher and come back to Satellite Operator when they buy satellite for their business. It mean satellite manufacturer pays its cost temporarily?. It is the problem on which will influence the initial investment cost of a satellite operator any way. This theme was also taken up at the conference of Satellite 2002. This is important theme for

satellite industry in coming year in order to encourage this market of business.

4) Existing and Emerging Services and Applications for GEO Satellites by Dr. Atia, President & CEO Space System Group, Orbital Science International

Dr. Atia presented the idea that Small GEO Satellites is the solutions for Emerging Applications. Orbital Science Corporation is the leading developer and manufacturer of small space systems focused on Small Space market niches. However, the other satellite manufacturer are still interesting in the large scale of satellite development, he pointed out. It is a position that the medium size of satellite employment is the result of profitableness for saving initial cost and cash flow performance improvement.

The Commercial GEO Communication Satellites face many new challenges, such as to bring the emerging services to market economically, customer demand low risk, reliable services at low price and etc.

Economy in most Asian country is has not completely recovered from the 1997 financial crisis. They are still stragglng how to escape from such situation. Then, most satellite manufacturer are coming off very difficult year 2002 and cannot afford large R & D expenditure. Then, he has proposed that incremental evolutionary introduction rather than large scale revolutionary changes and timeframe of development and implementation consistent with schedules for manufacturing and launching new satellites.

5) "Future Trend of Satellite Communications in Internet World" by Mr. M. Inagaki

His introduction was focusing on WINDS project that is the project of the satellite Internet developing in NT-S for NASDA (now JAXA), in addition to that he has also addressed on the Quasi-Zenith Satellite System development work in NT-S. The growth and demand of Internet in Japan and world were also showed which tell us the price offering in Japan is the lowest one in the world. The possibility of expansion of large-scale of data transmission, improvement in the speed, and new application required were described, and the necessity for the satellite Internet that has the feature in broadband, multi-cast was emphasized.

It is also introduced that Ka-band Multi-beam antenna system, ATM type On-board switching, High power density for use of 45cm antenna ground terminal are key technology for the WINDS project successfully completed.

In conclusion,

If each panelist's opinion is seen synthetically above, it is shown that the satellite communication business field of coming year has a bright future, and it will be sure that sympathy of the participant who exceeds 250 persons had been obtained and strong support

for us.

At the end:

It was regret to say that Dr. Kurt Campbell has not participated by the self-discipline request of an overseas travel by U.S. Government because of the Iraq war happened. It was also sorry to have the number of participant from overseas to be outbreak by Iraq war and SARS Crisis. However, it was the good things that Chairman from U.S. and Panelist from Europe and U.S. were obtained, and Plenary Session was performed successfully,

I deeply appreciate all participant and organizer for this session to cooperate with us.



Dr. Butash, Chairman for Plenary Session B

**Plenary Session B Organizer
Susumu Kitazume**