Selected Paper

From AIAA 20th ICSSC, 2000, in Montreal

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AIAA 20th ICSSC (International Communications Satellite Systems Conference & Exhibit) was held on May 12 through 14, 2002, in Montreal, Canada. This international conference is the biggest one which is organized by AIAA and it is held periodical in North America, Europe and Asia. Following the AIAA Conference plan, the next AIAA 21st ICSSC will be held on April 15 through 19, in Yokohama, Japan.

This column presents the outline of the opening address and two papers which shows the direction of satellite bus technologies will be presented.

<Opening Address> Panelist made a presentation about their own organization's activities. Topics are as follows;

Telesat Canada; AnikF2 (600M-US$) carries 48 Spot Beam, and using these beams DVB-RCS satellite communication experiment will be conducted by ESA/CRC(Canada).

ESA; ESA will develop "Alpha" bus system for the use of FSS/DBS. The target of this bus is 20kW generated DC power and the weighs of 8 ton. The first launch of this bus will be 2004.The expected cost for this development will reach 1.2 Billion Euro.

Eutelsat; Eutelsat studies the feasibility of bi-directional satellite Internet service which costs is less than 25 Euro and compatible with the terrestrial DSL services. Using this satellite Internet, Eutelsat foresees contents delivery and Data distribution services.

<Satellite Bus Systems>

The trend of satellite bus seems to increase its capacities, however, small satellite bus has many advantages such as a low cost and short delivery time. From this point of view, TRW and SS/L presented a paper.

TRW (#AIAA-2002-1928); Standard delivery time of small satellite bus is around 27months and beam pointing accuracy is almost 0.1 degree which is sufficient enough to continue services during maneuver period. TRW is now developing the T310 bus whose dry mass is 1.25ton, and generated DC power (EOL) is 1.6kw.

SS/L(#AIAA-2002-1929); SS/L believes that the large bus is totally economical for the system. They are developing FS1300E bus using DTR (Deployable Thermal Radiator) technology, and the dry mass is about 6-8 ton and generated DC power (EOL) is more than 20 kW.