

SPACE OPERATIONS SYMPOSIUM (B6)
New Operations Concepts (2)

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THE GROUND STATION OF THE FUTURE

Abstract

A workshop on the subject was held at SSC Chile on November 17-18 2008 at the Santiago Ground Station. Among the 50 participants were 12 Space Agencies and key individuals from the industry. A shift in the regulations, the frequency domains, ground station technology, requirements and commercialisation in the area of ground stations has been noted. The following questions were discussed in separate groups:

1.) What will the future frequencies for TTC and Payload data reception be? 2.) How will future ground stations adopt new technologies for remote control and communications? 3.) Which will be the future requirements for polar and equatorial LEOP networks? 4.) How does the future commercial market for Ground station services look like?

The groups reported their findings and these have been synthesised into this paper.

One can see a tendency towards Ku-band and in the future Ka-band from X- and S-band. Optical links may be the next logical step. Standardisation processes (CCSDS, SLE) and de facto standardised equipment (CORTEX) have led to an increase of interoperability between ground stations, but this can be enhanced much further by agreeing on real standards. This affects the preparation phase of the network in a sense that interfaces as well as testing hours are reduced. The result is that prices are dropping. Overall there is a pressure on all network operators to provide cheaper and faster services without compromising reliability. The commercial sector is increasingly supplying the capacity that Agencies do not need on a daily basis. Another change is that the commercial sector is consolidating into global networks under private ownership to exploit the synergies that offering one interface and access point implies. More detailed findings will be presented at the IAC 2009.