



SATELLITE COMMUNICATION IN UKRAINE: PROSPECTS FOR BUSINESS

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BACKGROUND

Ukraine, being a sovereign state since December, 1, 1991, is a purely European country (a geographic center of Europe is in Ivano-Frankivsk Region), with a population exceeding 52 mln people and territory over 600 square kilometres. Ukraine accumulated 15.6 percent of former USSR industrial funds (18 percent in agriculture). Its industrial enterprises manufactured over 25 percent of radioelectronic instruments and 20 percent of active and passive components.

The country possesses a considerable scientific potential. Its Academy of Sciences has more than 500 large research and development institutes. A number of branch research institutes occupy a leading position in their fields ("Saturn" and "Orion" Research Institutes, Electric Welding Research Institute, "Yuzhnoye" Design Bureau).

Ukraine is an area of vast opportunities for advantageous capital investment by foreign companies in various fields of activity.

The most important strategic resource of the country is its geopolitical location at the crossroads of economic and cultural ties between the Western and Eastern, Northern and Southern nations.

Having a considerable and diversified potential the country is at the moment in the serious economic crisis caused by difficulties in its transition to the market economy, disruption of previously existing economic ties with its neighbours and a number of subjective factors.

Potential capabilities for the Ukrainian economic revival, along with other reasons, are limited with the insufficient telecommunication infrastructure. For example, until 1992 the majority of international phone lines was laid through Moscow via 150 circuits. A distribution of the satellite TV signal (except for the direct TV broadcasting) was restricted to the "Ostankino" channel (Moscow).

PRECONDITION FOR ESTABLISHING SATELLITE COMMUNICATION AND BROADCASTING

In terms of the territory and its configuration Ukraine is a compact country. It can be covered by the geostationary satellite beam of 1.25x2.5 degrees with a high radiation power density at the Earth surface. It allows to operate comparatively cheap earth stations equipped with small antennas.

The Ukrainian integration into the world satcom network is characterized with the existence of:

- operational earth station (Lviv Region) and leased transponders at two "Intelsat" satellites (600 public phone circuits with the USA, Canada and South-East Asia);
- restricted network (7 earth terminals) of business banking satellite communication;
- network of mobile satcom earth terminals for objects operated in INMARSAT through the coastal (central) station in Odessa. "Musson" Concern located in Sevastopol in serially manufacturing the Standart A switches certified in INMARSAT.

Ukraine has well developed space industry based upon the "Yuzhnoye" Design Bureau (city of Dnipropetrovsk) which has recently marked its 40-th anniversary. Along with the widely known combat missiles (SS-18 and SS-24) it also developed "Cosmos" launchers for "Cosmos" and "Intercosmos" spacecraft as well as "Cyclon-2", "Cyclon-4" and "Zenith" - one of the best launchers in the world. Totally, the "Yuzhnoye" Design Bureau amalgamated with "Southern" Industrial Enterprise have designed and manufactured about 400 spacecraft of more than 60 types. At present they develop a spacecraft and "Zenith 4M" launcher for the "Lybid" Ukrainian satellite communication system based on geostationary satellite.

The "Yuzhnoye" Design Bureau has extensive international ties with both Russian

and Western companies (Russian company "Energy", French "Aerospatiale", German "Deutsche-Aerospace", British-French "Matra Marconi Space").

It is noteworthy to mention other industrial companies belonging to the Ukrainian space industry: "Khartron" (city of Kharkiv), "Arsenal" (Kyiv) - manufacturing aiming and control, registration and data transmission systems; "Saturn" and "Orion" Research Institutes (microwave low-noise amplifiers, generators and waveguide units), Kyiv Radio Engineering Plant (earth stations and TV DBS equipment).

Setting up the National Space Agency of Ukraine (1993) and adoption of the National Satellite Communication System Program by the Ukrainian Cabinet of Ministers (hereinafter called "Program") have been very important for developing Ukrainian satellite communication.

PROGRAM

The program is intended to create a full scale national satcom system in three stages (1st 1993- 1995, 2nd 1996-2000, 3rd 2001-2005). It includes:

- fixed satellite service (FSS) in international public phone lines - up to 8,000 circuits;
- business communication (VSAT) - over 1,000 circuits;
- satellite TV broadcasting - up to 3 new channels (provides also for an exchange of 3-5 channels and parts thereof);
- communication with mobile objects - up to 10,000 circuits.

IMPLEMENTATION ASSESSMENT

Launching the "lybid" satellite which will ensure functioning of all above listed services is scheduled for 1997. At the moment with limited amount of finances the boosting unit for the "Zenith-4M" launcher (necessary to launch the "Lybid" satellite at geostationary