

Cyta's Eastern Mediterranean Teleport Brings Premium Solutions to the International Satellite Market

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Cyta is the primary telecommunications provider in Cyprus. Its product portfolio covers the whole spectrum of electronic communications ranging from fixed and mobile voice and data communications, Internet, IPTV, broadband and value added services.

Cytaglobal is a strategic business unit of Cyta and is particularly active in the area of international undersea fibre optic cables, providing wholesale products and services on a global basis. Taking advantage of the island's strategic geographical position, Cytaglobal has developed an extensive undersea fibre optic cable network, which connects Cyprus with its neighbouring countries and thereafter with the rest of the world.

Cytaglobal also operates an extensive satellite network with three Teleport sites and more than 30 major satellite antennas, providing connectivity with major satellite systems such as Intelsat, Eutelsat, SES, Hylas, Thor, AsiaSat and Arabsat. Services offered range from satellite television on a permanent and occasional basis to international telephony, monitoring services, data and internet connectivity. The teleports also offer VSAT services, hosting services to third parties and serve as a video head-end for Cyta's IPTV offering in the Cyprus market.

Makarios Teleport

"Makarios" is Cyta's major Teleport that has been in operation since 1980. The site has been growing consistently and today is a fully developed Teleport that can satisfy a wide range of customer requirements. The site offers proximity to the island's main towns, seaports and airports. Modern buildings house the earth station equipment and associated subsystems. Additional space is dedicated for service, monitoring, office space for personnel and for auxiliary support systems. The site is fully supported by all Public Utilities. Makarios Teleport is well connected with Cyta's national and international fiber networks providing ample capacity and dedicated direct links with major international nodes. The Teleport is manned on a 24 hour basis for 365 days per year by qualified personnel with the training and experience to support a diverse range of satellite communications systems and services. A manned security system ensures the safety of the operators and equipment at the site on a 24 hour basis.

Geographic Location and Climate

The position of Cyprus in the eastern end of the

► Mediterranean Sea is a privileged location for Satellite Communications. Makarios Teleport offers full visibility of the geostationary arc, covering any satellite location between 33,5°W and 100,5°E with elevation angles greater than 10°. This arc provides visibility to a large number of satellites, which effectively allows access to any point on the globe. The climate in Cyprus, with extensive sunshine, low rainfall and mild temperatures, is ideal for satellite operations. No de-icing is needed at the Teleport and the heating and air-conditioning loads are comparatively small. More importantly, reduced margins for rain attenuation make it possible to provide links with enhanced availability.

Makarios Teleport is also free of any restrictions related to the use of frequencies in the satellite or terrestrial bands. The utilization of these frequencies is uninhibited and not subject to any interference, or restriction by the Regulatory Authorities.

The site is conveniently located in a valley and so potential interference with terrestrial systems is avoided. Furthermore, the fact that Cyprus is an island ensures, complete isolation from any emissions from entities in other countries.

Detailed site surveys have shown that the Teleport is free of harmful interference. No satellite antenna operating at any satellite location has ever experienced degradation of performance because of interference from other satellite or terrestrial systems.

Experienced and qualified Personnel

The quality, qualifications and experience of Cyta's personnel, is a major asset for the company. The competency of the technicians and engineers working at Makarios Teleport, ensure the provision of first class service

and technical support. All personnel at Makarios Teleport have sufficient experience in satellite communications. Cyta has been involved in satellite communications since 1980 when it established MKR-1A, its first 32m Intelsat Earth Station. Since then, the number of major Earth Stations has gradually increased to more than thirty, operating with a diverse collection of satellites from many operators. During these years, Makarios personnel has undergone intensive training and acquired extensive experience in virtually all technical and management aspects involved in planning and providing satellite services.

Equipment and Supporting Infrastructure

Makarios Teleport has been in operation for a long time. Nevertheless, the Site continues to expand steadily and new equipment and infrastructure is regularly integrated to the existing facilities. The existing infrastructure and equipment are well maintained to ensure their reliable operation until the end of their useful life. Older facilities are gradually faced out and are replaced with modern equipment and systems to respond effectively to the needs of Cyta and its customers.

Makarios Teleport is fully equipped to provide a wide range of satellite services, tailor made to the requirements of its customers. Depending on the case, these will include the required earth station, RF, and associated baseband equipment, environmentally controlled space to host the indoors equipment, and all necessary infrastructure to support the facility and ensure optimum provision of service. The satellite antennas and associated equipment at the Teleport have been supplied by reputable suppliers and companies with extensive experience in the provision and installation of Earth Station systems. The equipment is



- ▶ reliable and utilizes proven technology in order to warrant high quality of service. The Teleport is backed by Cyta's telecommunications national and international infrastructure, which is among the most developed in the region.

Satellite Telecommunications Network and Services

Makarios Teleport hosts a large number of earth stations that provide links with numerous satellites, supporting Cyta's extensive satellite telecommunications network. There are antennas operating in Cband with linear or circular polarization and antennas operating in standard or extended Ku-band frequencies. The site provides visibility to a large section of the geostationary arc extending from the Atlantic to the Indian Ocean region and the numerous satellites in this arc are able to provide access practically to any point on the globe. The satellite network is fully integrated with the national and international fiber networks of Cyta, thus making it possible to provide customized managed hybrid solutions.

The services provided include broadcasting and turnaround of digital television on permanent, periodic or occasional basis. Turnaround services for satellite-to-satellite links have been provided for a long time, but satellite-to-fiber links are becoming increasingly popular especially for satellite internet and VSAT applications. VSAT solutions are important services in today's marketplace and Cyta provides such services to its customers internationally. VSAT links enable instant connectivity to remote regions around the globe and offer modern communications solutions. Cyta offers reliable services with small and low cost terminals. Field support is provided in association with specialized partners.

Makarios Teleport also offers international telephony to various destinations and serves as a video head-end for Cyta's multichannel IPTV service. This includes reception of about 100 TV channels from various satellites with a dedicated antenna farm, which includes more than 60 receive terminals and can provide visibility to most broadcasting satellites covering our region. The content is assembled in a digital bouquet that is fed to Cyta's core network for distribution to the customers. All the content is actively monitored on a 24- hour basis.

Special care is provided to customers wishing to use the Teleport to provide their services in the international market. Hosting services to third parties include collocation, integration, and network control. Monitoring services are also offered at the site. These include carrier and baseband monitoring and interference localization as required. Usually, the customer equipment is installed on a turnkey basis under Cyta's supervision.

Today, there are numerous providers in the international telecommunications market and the customer has many choices. However, Cyta possesses a set of important advantages that make the company an attractive partner to the prospective customer. These include extensive experience in the provision of international telecommunications services, a modern fiber network with international POPs and dedicated Teleport facilities for satellite access. Makarios Teleport enjoys an ideal geographical location, a state-of-the-art infrastructure and facilities and offers optimal conditions for satellite communications.

For more information please visit:

www.cytaglobal.com and www.cyta.com.cy

