Cyta's Telecommunications Hub in the Eastern Mediterranean – a Telecommunications Corridor between Europe and the Middle East

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Cyta, the leading telecommunications operator in Cyprus, provides the full spectrum of advanced telecommunication products and services, covering fixed and mobile voice and data communications, Internet, IPTV, broadband and value added.

Cytaglobal, is a Strategic Business Unit under Cyta's National & International Wholesale Market Division. Cytaglobal manages Cyta's International Wholesale Market activities and specialises in providing global electronic communication products and services.

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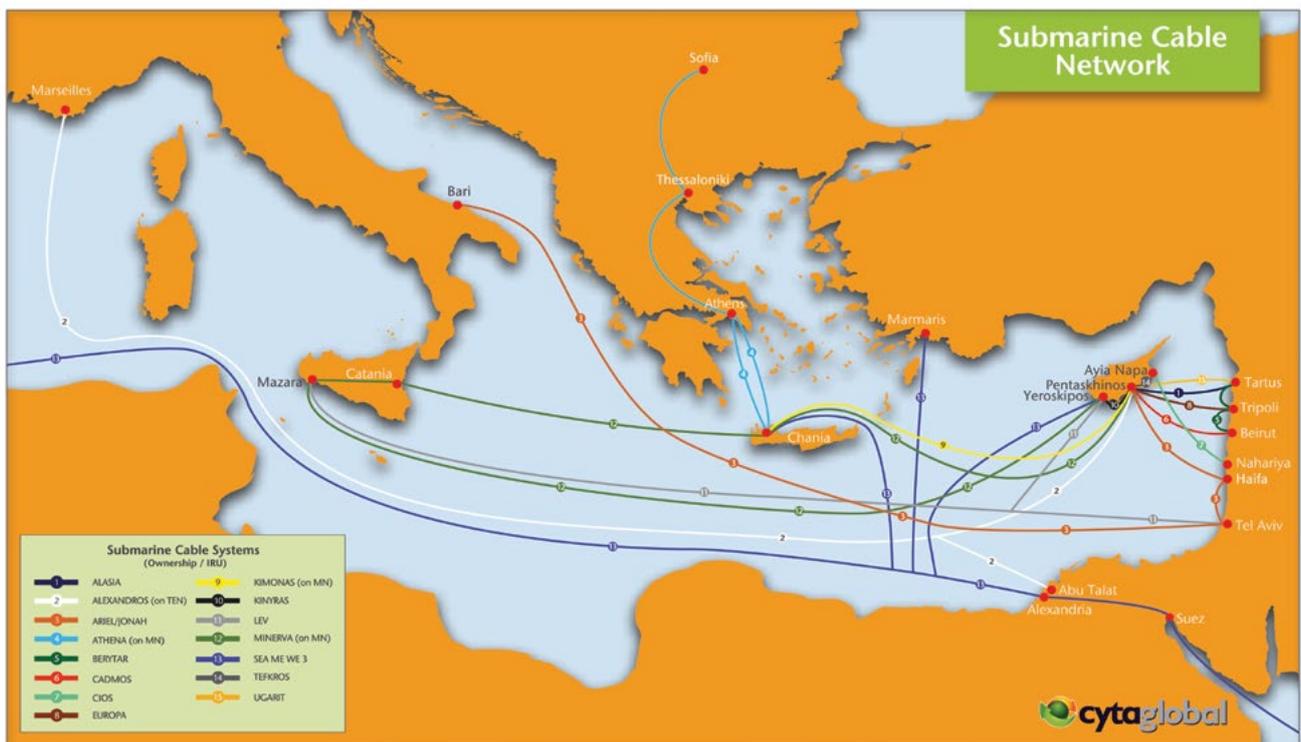
Cytaglobal is particularly active in the area of international undersea fibre optic cables, providing wholesale products and services on a global basis. Taking advantage of the island's strategic geographical position, Cytaglobal has developed an extensive undersea fibre optic cable network, which connects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

This cable network, uses state-of-the-art technology and full restoration and diversity and includes the following submarine fibre optic cable systems that land in Cyprus, at three separate Cytaglobal cable landing stations, namely Ayia Napa, Pentaskhinos and Yeroskipos:

ARIEL – a private cable subsystem consisting of a fibre pair between Cyprus and Israel providing connectivity to Israel and extending beyond to Western Europe through other existing networks.

CIOS – a repeaterless cable system of SDH technology connecting Cyprus directly with Israel.

CADMOS – a repeaterless cable system of SDH technology connecting Cyprus directly with two separate landing stations in Lebanon. Moreover, Cytaglobal and the Lebanese Ministry of Telecommunications are also in the process of establishing a multi terabit system connecting Cyprus to Lebanon named EUROPA.

UGARIT – a repeaterless SDH cable system directly connecting Cyprus and Syria and via terrestrial extensions, with Jordan. UGARIT and CADMOS together with the **BERYTAR** cable system (Beirut – Tartous), are fully integrated into a secure self-healing ring, interconnecting Cyprus with Lebanon and Syria.

ALASIA – a new submarine cable system that will link Cyprus and Syria and will add an alternate route to the Ugarit system which already connects the two countries. Alasia will also interconnect with Alexandros subsystem on the TE North cable network to provide onward connectivity to Europe and other destinations.

SEA ME WE 3 – southwards via Egypt, to the Middle East and the Indian Subcontinent, South East Asia, China and Australia, and westwards to Europe, traversing the Mediterranean and North Sea, all the way to Germany. This cable system has been upgraded several times and now consists of two fibre pairs each carrying 48 wavelengths operating at 10 Gbit/s, linking the Pacific Rim, South East Asia, the Middle East and Western Europe, through a multitude of landing stations in many countries. Its total length of about 40,000 km makes it the longest submarine optical fibre cable network in the world.

LEV – a state-of-the-art cable system connecting Cyprus eastwards with Israel and westwards with Italy, and thereafter via the **MED NAUTILUS** cable system to Greece, Turkey and the rest of Europe.

MINERVA – an independent private cable subsystem forming a direct self-healing ring between Cyprus and Italy, and through Telecom Italia Sparkle Pan-European networks, connecting to the rest of Europe, the US and beyond. The

MINERVA Subsystem interconnects two landing stations in Cyprus (Yeroskipos & Pentaskhinos) directly with two landing stations in Italy (Mazara & Catania), providing superior quality and protection. The MINERVA Subsystem uses a dedicated express fibre pair with 10 Gbps DWDM wavelengths on the MED NAUTILUS Cable System, directly connecting Cyprus and Italy, completely bypassing Turkey, Greece and Israel. The MINERVA Subsystem is operated and managed by MED NAUTILUS for the sole use of Cytaglobal and its customers.

The subsystem consists of two integrated rings, one ring is interconnecting the islands of Cyprus, Crete and Sicily and the other ring is interconnecting Crete with the Greek mainland, terminating in Athens. The ATHENA subsystem represents a major deployment of additional capacity in the Eastern Mediterranean, providing further extentions to Western Europe via Catania in Sicily, but also to Eastern Europe via Athens, including a wet route to Turkey. The ATHENA subsystem can bridge via Cyprus, the Middle East region with Europe and beyond.

ALEXANDROS – a private cable subsystem wholly owned by Cyta consisting of a fibre pair between Cyprus-Egypt and a fibre pair between Cyprus-France, implemented through Telecom Egypt's submarine cable system TE NORTH (TEN), connecting Egypt with France, and through Pan-European networks, connecting to the rest of Europe and beyond. The ALEXANDROS Subsystem interconnects Yeroskipos landing station in Cyprus with Abu Talat in Egypt and Marseilles in France, each direction with 80x40Gbps total capacity, providing a bridge between East and West. Employing ALEXANDROS subsystem and leveraging its strategic co-operation with Telecom Egypt, Cyta achieves an optimum

► configuration for its business needs, enhancing connectivity in the Mediterranean and providing international network robustness and reliability.

POSEIDON – Cytaglobal reached an agreement with Radius Oceanic Communications for a new and important project for Cyprus, called POSEIDON. POSEIDON is a high capacity undersea cable system that provides advanced telecommunications facilities to the offshore oil and gas industry in the Eastern Mediterranean region. The POSEIDON system extends for some 800 km from two shore landings in Cyprus, creating a self-healing ring that borders the Cypriot EEZ, enveloping the offshore oil and gas lease blocks established for development by the Republic of Cyprus. POSEIDON enables Cytaglobal to play an important role in providing state-of-the-art telecommunications facilities to the developing energy sector in the Eastern Mediterranean region. Cytaglobal's partnership with Radius allows offshore exploration, production and support facilities, through Cytaglobal's telecommunications hub.

Two high capacity coastal links – **TEFKROS** and **KINYRAS –** interconnect all landing points in Cyprus (Ayia Napa, Pentaskhinos and Yeroskipos), thereby securing all-wet routes for regional and international traffic. The two coastal links are further protected with terrestrial SDH self-healing rings. As a major co-owner and Network Administrator of submarine cable systems, Cytaglobal facilitates the acquisition of capacity on systems landing in Cyprus. Through Cytaglobal, owners of capacity in such cable systems, have access to considerable reserve capacity in other submarine cables connecting Cyprus to rapidly developing neighbouring countries.

Cytaglobal is continuously evaluating the connection of Cyprus to other planned fibre optic networks the world over.

In November 2015, Cytaglobal and Telecom Italia Sparkle announced the new **KIMONAS** subsea cable subsystem linking Cyprus and Crete. KIMONAS is Cyta's first wholly owned optical fibre cable subsystem connecting Cyprus and Greece. The subsystem, that connects Cyta's cable station in Pentaskhinos with MedNautilus Cable Station in Chania, complements alternative Cyta's segments on the MedNautilus subsea cable network and in particular the MINERVA and ATHENA rings, which connect Cyprus with Sicily, and Athens with Crete, respectively.

Extending to Athens through the ATHENA ring and beyond to Bulgaria via Thessaloniki, by utilizing fibre infrastructure of wholly-owned subsidiary Cyta Hellas in Greece, KIMONAS will facilitate the creation of a new telecommunications corridor, connecting the Balkans and Central Europe with Egypt and other Middle East destinations, via Cyprus. At the same time, it will allow the interconnection to Turkey in the East and Italy and other European destinations in the West, through Telecom Italia Sparkle's network. The new KIMONAS cable subsystem provides synergies for the Cyta Group via a common Cyprus – Greece front, creating a major telecommunications bridge between East and West.

Through its global network, Cytaglobal provides a wide range of international telecommunications products, services and total solutions, making Cyprus a major telecommunications hub in the eastern Mediterranean and an excellent international electronic communications center.

For more information please visit:
www.cytaglobal.com and www.cyta.com.cy