



**From East to West**  
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We keep you in touch

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## About Us

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Cyta, the leading telecommunications provider in Cyprus, provides the full spectrum of advanced telecommunication products and services, which include fixed and mobile voice and data communications, value added services and much more.

Cytaglobal, is a semi-autonomous Strategic Business Unit within 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.

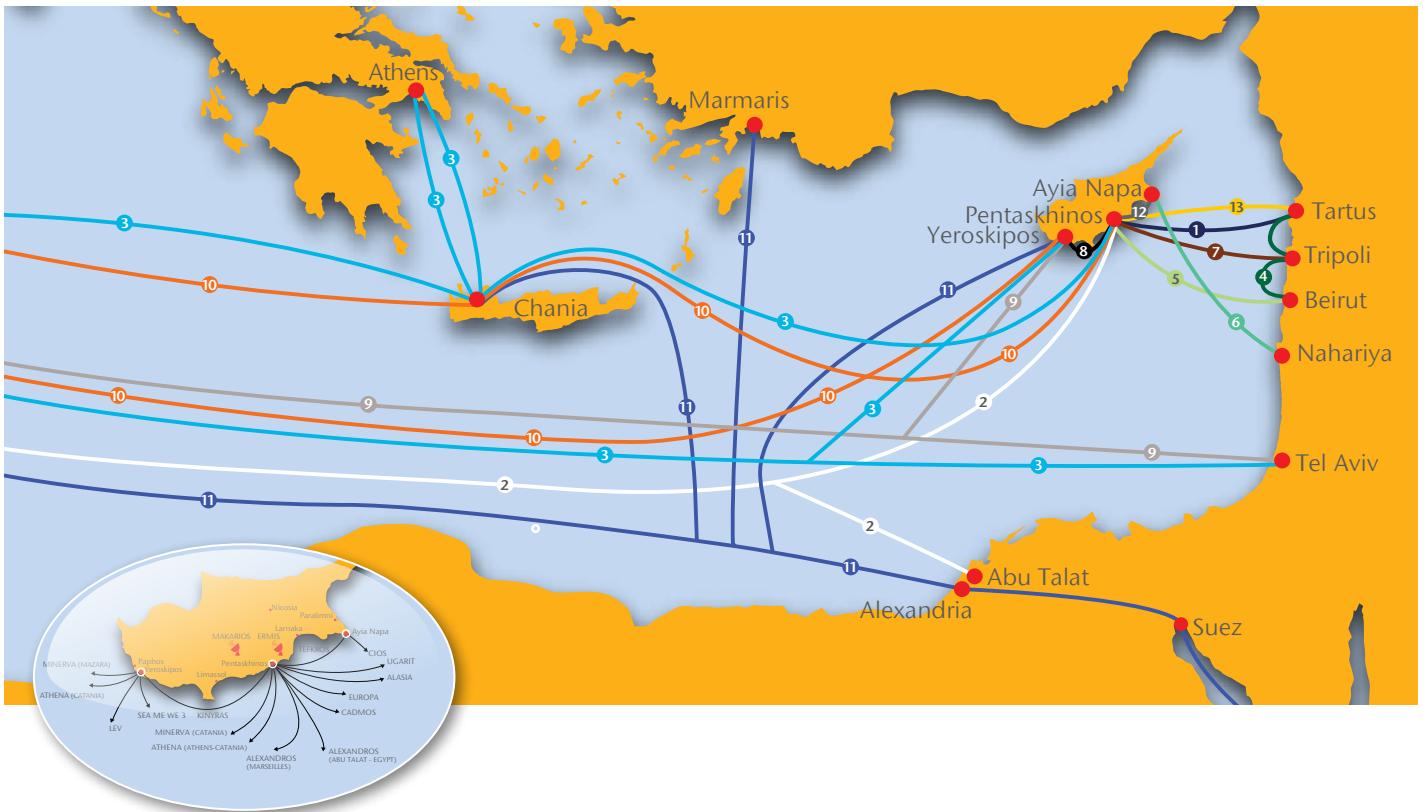
## An advantageous Location

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Thanks to its location in the Eastern Mediterranean at the crossroads of Europe, Asia and Africa, Cyprus has historically served as a commercial and communications base of strategic importance.

Taking advantage of the island's geographical position, Cytaglobal has developed an extensive submarine fibre optic cable network connecting Cyprus with other countries and with international networks beyond. Furthermore, Cytaglobal has an equally impressive satellite telecommunications network boasting high quality international connectivity.

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



## Network

Our success as a telecommunications hub in the Eastern Mediterranean and the Middle East region is due, first and foremost, to the strength of our network and the superb regional and global connectivity that we offer.

## Submarine Cable Network

Cytaglobal is co-owner of an extensive fibre optic cable network which spans the Atlantic and Indian Oceans, the Mediterranean, and the North and Black Seas, delivering unrivalled performance and reliability with the flexibility of synchronous digital transmission.

This cable network uses state-of-the-art technology and full restoration and diversity. It 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:

### Submarine Cable Systems (Ownership / IRU)

1	ALASIA
2	ALEXANDROS (on TEN)
3	ATHENA (on MN)
4	BERYTAR
5	CADMOS
6	CIOS
7	EUROPA
8	KINYRAS
9	LEV
10	MINERVA (on MN)
11	SEA ME WE 3
12	TEFKROS
13	UGARIT

### **CIOS**

A repeaterless SDH cable system connecting Cyprus directly with Israel.

### **CADMOS**

A repeaterless SDH cable system connecting Cyprus directly with two separate landing stations in Lebanon.

### **UGARIT**

A repeaterless SDH cable system connecting Cyprus directly with Syria and, via terrestrial extensions, with Jordan and the Middle East.

UGARIT and CADMOS together with the BERYTAR cable system (Beirut - Tartous), are fully integrated into a secure self-healing ring, interconnecting Cyprus, Lebanon and Syria.

### **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 fibre optic 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 with 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.

### **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 the Pentaskhinos landing station in Cyprus, Abu Talat in Egypt and Marseilles in France, each direction with 80x40Gbps total capacity, providing a bridge between East and West. By employing the 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.

## **ATHENA**

A private cable subsystem wholly owned by Cyta, connecting Cyprus with Greece. The subsystem consists of two integrated rings, one interconnecting the islands of Cyprus, Crete and Sicily and the other 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 extensions 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 the Middle East region with Europe and beyond, via Cyprus.

## **TEFKROS & KINYRAS**

two high capacity coastal links that interconnect all landing points in Cyprus (Ayia Napa, Pentaskhinos and Yerokipos), 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. By co-owning, buying or leasing capacity, we participate in many other regional and global submarine cable systems such as AC1, CELTIC, COLUMBUS III, MED NAUTILUS, SAT3, TAT 14 and OTRANTO-CORFU.

## **POSEIDON**

Recently, Cytaglobal has reached an agreement with Radius Oceanic Communications for a new and important project for Cyprus, called POSEIDON. POSEIDON is a high capacity undersea fibre optic cable system that will provide advanced telecommunications facilities to the offshore oil and gas industry in the Eastern Mediterranean region. The POSEIDON system will extend some 800 km from two shore landings in Cyprus, creating a self-healing ring that borders Cyprus' Exclusive Economic Zone (EEZ), enveloping the offshore oil and gas lease blocks established for development by the Republic of Cyprus. POSEIDON will play an important role in providing state-of-the-art telecommunications services to the developing energy sector in the Eastern Mediterranean region. Cytaglobal's partnership with Radius will allow offshore exploration, production and support facilities to reach the world through Cytaglobal's telecommunications hub.

Furthermore, Cytaglobal is in the process of establishing two new regional submarine cable systems that will connect Cyprus with Syria and Lebanon respectively. A Construction & Maintenance Agreement has already been signed between Cytaglobal and its counterpart in Syria (Syrian Telecom) for a multi-terabit system connecting Cyprus with Syria, named ALASIA. Cytaglobal and the Lebanese Ministry of Telecommunications are also in the process of establishing a multi-terabit system connecting Cyprus with Lebanon, named EUROPA.

## Satellite Network

An extensive satellite network providing high quality global connectivity supplements Cytaglobal's far-reaching fibre optic cable connections. We own and operate two teleport sites and more than 30 major satellite earth stations which provide connectivity with Intelsat, Eutelsat, SES, AsiaSat, Thor, ARABSAT, ABS and other major satellite systems.

Cyprus' ideal geographical location offers optimal conditions for satellite communications. By taking advantage of this, while bringing together fibre and satellite connectivity to provide integrated hybrid solutions, Cytaglobal has established itself as a leading ISO-certified player. We have gained a deserved reputation for providing high quality personalised services, fully supported by our experienced personnel, on a 24-hour basis.

## CytaWorld.Net

CytaWorld.Net is our state-of-the-art MPLS platform, comprising a robust optical fibre ring-network with core and access routers, centralised management and full redundancy, integrating voice, data and video into a single secure and flexible global network. CytaWorld.Net currently has three points-of-presence in Athens, London and Nicosia which are further interconnected with our partners' international networks, thus enabling Cytaglobal to offer total solutions to most destinations worldwide.

Cytaglobal Hellas AE and Cyta UK Ltd are wholly-owned subsidiary companies of Cyta which own and operate the points-of-presence in Athens and London respectively.





# Global Products & Services

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Our network has enabled us to develop and provide versatile global products and services that are constantly evolving so as to meet our customers' changing needs and requirements.

By devising price benefits for schemes that take into consideration issues such as destination, volume requirements and long-term use, we safeguard the competitiveness of our products.

## Cable Connectivity Products

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Cable connections constitute our traditional core business and are characterized by their exceptionally high reliability, enabling our customers to acquire and build their own high quality global networks.

### International Cable Capacity

As a major co-owner and administrator of regional and intercontinental submarine cable systems, Cytaglobal facilitates the transfer of cable capacity on both an IRU and Lease basis.

### Transit Connections

To extend capacity from one international submarine cable landing in Cyprus to another and to interconnect satellite facilities with these cables, we make available dedicated transit connections on our national coastal systems TEFKROS and KINYRAS. The reliability of service on these all-wet transit routes is safeguarded by supplementing them with terrestrial fibre optic cable routes, ensuring comprehensive diversity and restoration. Such facilities can be acquired on either a Right of Way (long term lease DDP) or a short-term lease basis.

### Backhaul

This is a regulated product offered to licensed operators in Cyprus. We provide connectivity between Cyta submarine cable stations and telehouses in the major cities of Cyprus.

# Satellite Connectivity Products & Facilities

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## Space Segment Capacity

As an initial party and shareholder of major satellite organisations, Cytaglobal provides and resells space segment capacity on various satellite systems worldwide.

## Teleport Hosting & Co-location

We can provide our partners with extensive hosting and co-location facilities, as well as outsourcing and integration services to suit every need and application.

## TV Transmission

Through our service to Broadcasters, we offer on demand, terminal TV transmission to and from Cyprus, typically via our dedicated fibre optic video links, on a periodic, occasional and event basis. Staffed with professional agents, our Booking Centre is open twenty four hours a day, seven days a week to guarantee rapid response times.

## Data & Internet

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To satisfy the business needs of corporate and wholesale customers, we provide high quality end-to-end solutions for global Internet and data connectivity. Cytaglobal closely co-operates with Cyta's wholly-owned subsidiaries Cytaglobal Hellas and Cyta UK as well as other international partners to enhance its coverage.

## MPLS-VPN Connections

We provide Layer-3 MPLS VPN end-to-end connections via the CytaWorld.Net platform for voice, video and data applications, utilising a common integrated broadband infrastructure, while maintaining the dedicated use and security of a private network. Network-based VPNs are thus combined with Class of Service (Gold: real-time; Silver: guaranteed latency; Bronze: best effort), which provides differentiated types of service so that delay-sensitive traffic and non-delay-sensitive traffic are separated, treated and priced accordingly. We can provide fully scalable solutions for minimal investment, allowing point-to-point, point-to-multipoint and multipoint-to-multipoint topologies. Typically, Ethernet interfaces with optical accesses are employed at customer ends, in order to provide optimum performance.





## **Ethernet-over-MPLS**

We provide managed Layer-2 Ethernet-over-MPLS connections at a variety of transmission rates, ranging from 1Mbps to 1Gbps over Fast Ethernet or Gigabit Ethernet interfaces. Connectivity is delivered through a highly resilient global MPLS platform, combining the simplicity, performance and cost-effectiveness of an Ethernet LAN while providing the security, pre-determined route and committed information rate of a dedicated leased line. Features such as bandwidth granularity, fast upgrades and high quality Service Level Agreements (SLA) ensure optimal performance at competitive prices. The product is suitable for enterprises requiring high quality, international connections at competitive prices.

## **IPLCs**

We provide International Private Leased Circuit (IPLC) solutions which offer point-to-point connectivity between Cyprus and major international destinations. This product is ideal for applications requiring secure, reliable and frequent transfer of information between Cyprus and other countries. It is based on SDH/TDM technology and is offered over fibre optic submarine cable systems at data rates from 64kbps up to 622Mbps. Tailored solutions and extensions into other off-net countries are possible subject to feasibility.

## **Ethernet over SDH**

Our Ethernet over SDH (EoSDH) solution offers point-to-point connectivity between Cyprus and major international destinations. This solution combines the reliability and security of traditional leased lines with the simplicity and scalability of Ethernet to fulfil the communication needs of business customers. This product is offered over optical submarine cable systems at data rates from 10Mbps up to 1Gbps.

## **International Frame Relay or Asynchronous Transfer Mode**

Private end-to-end connections employing Frame Relay (FR) or Asynchronous Transfer Mode (ATM) protocols are made available, through alliances with international FR/ATM providers, to destinations worldwide.

## **Global Internet Connectivity**

Our target is to become the leader in expanding Internet access in the Eastern Mediterranean, by exploiting our highly resilient network and Cytanet platform to provide premium global Internet connectivity. Cytanet is a Strategic Business Unit of Cyta, representing one of four powerful Cyta sub-brands, and is the largest and most experienced Internet Service Provider (ISP) in Cyprus, offering high quality broadband services. Cytaglobal provides access to the Cytanet platform by employing a variety of access technologies and routing protocols, making available carrier grade IP-Transit solutions to wholesale customers, including telecom operators and ISPs based in Cyprus or elsewhere. In this way, diversified global backbone, congestion free BGP4 routing and peering infrastructure are fully utilised to achieve unmatched throughput rates, very low latency and low packet loss access.

# Wholesale Voice

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State-of-the-art switching and transmission equipment, coupled with intelligent Best-Cost-Routing (BCR) capabilities and sophisticated network traffic management systems, guarantee premium quality completion rates at competitive prices. Circuit switched and high-quality VoIP connections for voice and ISDN traffic are offered to more than 240 countries and territories.

## International Wholesale Telephony

Provision of international wholesale telephony to Cyta National Wholesale and to other Cyta Business Units to meet the needs of their wholesale and retail customers, respectively. In turn Cyta National Wholesale further resales wholesale telephony to licensed operators in Cyprus, providing termination of their international traffic to fixed and mobile networks through direct routes with Operators in more than 50 countries. Premium quality for voice and isdn traffic, with fax, CLI (Calling Line Identity) and roaming capability, at exceptionally high ASR (Answer to Seizure Ratio), is guaranteed through the support of an advanced International Traffic Management Centre.

## Traffic Termination

Provision to International Telecom Operators of traffic termination to all Cyprus fixed and mobile networks, to meet the needs of their retail or wholesale customers. International traffic is routed via direct interconnections to fixed and mobile networks in Cyprus, providing premium quality termination of voice and ISDN traffic with fax, CLI (Calling Line Identity) and roaming capability.

## Voice Transit

Our transit product is provided either through a TDM or an IP-based interconnection, offering the possibility to combine different routing and pricing options to cater for customized solutions. We combine direct links with selected best-cost-routing options optimizing quality and price, for a highly competitive service. We provide global coverage through our network, with access to most fixed and mobile destinations. Product features include flexible and dynamic routing, proactive monitoring of the network, fault management and CLI transmission and testing.

## International FreePhone

Our International Freephone Service (IFS) and Universal International Freephone Number (UIFN) Service allow businesses to conveniently receive calls from their customers in another country: In these cases calls are free of charge to the caller, while the recipient is billed for the international calls. IFS numbers assigned by Cytaglobal are of the format 8009 XXXX. If, however, a business enterprise wishes to be reached from several countries on the same freephone number, UIFN may be offered, enabling the business to be allocated a unique international freephone number that is the same throughout the world. In this case, UIFN is of the format +800 XXXX XXXX and is assigned in association with the International Telecommunications Union (ITU).



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