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| **CYPRUS REPUBLIC-EG** |
| **DEPARTMENT OF ELECTRONIC COMMUNICATIONS****DEPUTY MINISTRY OF RESEARCH, INNOVATION AND DIGITAL POLICY**  |

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| **REQUEST FOR INFORMATION (RFI)** **FOR A NEW SUBMARINE CABLE LINK BETWEEN CYPRUS AND GREECE**  |

**Publication Date of the RFI:** 18May 2021

**Closing Date for Submission of Responses:** 08 June 2021

**Responses should be addressed by email to the following recipients:**

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**NICOSIA**

**18 May 2021**

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# Introduction

Greece and Cyprus have set ambitious targets in their Digital Strategies and recognise that, access to high quality communication networks and services at affordable prices -for all people and firms, no matter where they are- is a prerequisite for their digital transformation.

In this context, the General Secretariat of Telecommunications and Post of the Ministry of Digital Governance of Greece and the Department of Electronic Communications of the Deputy Ministry of Research, Innovation and Digital Policy of Cyprus, wish to evaluate the need for a new submarine cable link that will interconnect Cyprus and Greece. Although the specifics of the project are to be decided, the high-level targets are:

* to create an alternative single-hop interconnection between the two countries that will increase resiliency and reliability of the existing systems (through a new route) and will enable intergovernmental cooperation at various levels including research and education,
* to provide ample and competitively priced backhauling capacity that will serve the increasing needs of the local societies for the years to come to enable the provision of high-quality broadband services for a Gigabit Society, and at the same time provide easier access for the broader region (middle-east and Africa) to the main internet nodes in central Europe.

Answers to the RFI can be provided in Greek or English.

**Note**: Independently of the scope of the current RFI, the Greek government is planning the deployment of a new submarine cable system that will interconnect the Greek islands that are not adequately connected. Within the scope of the Ultrafast Broadband (UFBB) project, which is currently under tender, some new submarine cables might be proposed and implemented. After the conclusion of the UFBB tender process, the General Secretariat of Telecommunications and Post of the Ministry of Digital Governance will publish a new, separate RFI, for this system.

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# Importance of submarine connectivity

Greece and Cyprus have very strong commercial, language, cultural and educational relations and Greece is the nearest EU country to Cyprus.

For islands like Cyprus, apart from the infrastructure deployment in the access part of the network, backhaul cable connectivity is pivotal. The exploding capacity needs, particularly with the increasing adoption of very high capacity fixed and mobile networks, challenge current backhaul networks and highlight the need for new investments.

Cyprus, due to its strategic location in the southeastern Mediterranean, is an important hub for short and long haul submarine cables. Despite this fact, it is directly connected to Greece through only two cables[[1]](#footnote-1) that were laid more than 20 years ago (approaching the broadly industry-accepted expected lifespan of 25 years). Cyprus lags behind its EU peers in broadband penetration while retail prices in the domestic broadband market are high. CYNET, the academic and research network of Cyprus, managed to upgrade its international connectivity to GEANT to 8 Gbps from 1 Gbps that had until very recently[[2]](#footnote-2), and even after the upgrade, Malta, a much smaller islandic country has long been interconnected to GEANT with 10Gbps.

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# Objectives of this RFI

The two governmental authorities seek to collect information from the stakeholders in order to explore the most suitable and efficient scheme for providing endorsement to a private entity for the establishment of a new communications corridor that will serve as an interconnector between the two countries. The objective of this RFI is to collect information related to the project in regards to the:

* Capacity that currently operating cables can offer, their occupancy and their expected life span;
* Existing private investments plans;
* Commercial and financial viability of such a project;
* Obstacles regarding its licencing, construction and operation;
* Potential configuration, topology, landing points and cable routes;

# Existing cables interconnecting Cyprus and Greece

Based on publicly available data sources, only the SEA-ME-WE-3 and the MedNautilus were identified as the only systems that establish a direct (single hop) physical level connectivity between the two countries.

The SEA-ME-WE-3 carries two fiber pairs (FP) and lands -among others-, at Yeroskipos (CY) and Chania (GR). It is operated by a consortium of telecom operators and was ready for service in 1999.

The MedNautilus carries six fiper pairs (FP) and lands -among others-, at Pentaskinos (CY), Athens and Chania (GR). It is operated by Sparkle and was ready for service in 2001. In 2015, CYTA agreed to lease one fiber pair (IRU) referred as “KIMONAS” and complements other previous agreements between CYTA and Sparkle in different spans of the MedNautilus.

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| **Questions for the cable owners:**1. **What is the current capacity configuration of SEA-ME-WE-3 and MedNautilus, regarding the spans between Cyprus and Greece? Please provide details per fiber pair/λ/speed.**
2. **What is the expected life span of SEA-ME-WE-3 and MedNautilus according to their initial design? Are there any actions taken or planned to be taken in the near future to expand the initially planned life span?**
3. **Are there existing cable systems directly interconnecting (single hop) Greece and Cyprus? If yes, please answer the above 2 questions for this other cable system accordingly.**
4. **Are these existing arrangements sufficient in terms of capacity, resilience, pricing and destinations? Please provide indications regarding current capacity occupancy and leased capacity cost per Gbps**
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| **Questions for the cable clients/users:**1. **Are these existing arrangements sufficient in terms of capacity, resilience, pricing and destinations?**
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**Please support your answers with as much detail as possible.**

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# Demand

Demand for connectivity typically comes from telecom operators, internet service providers, digital content providers including over the top service providers. During the last years there is a trend for decentralizing the data location by creating regional point of presence and data centres.

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| **Questions regarding the demand:**1. **What factors will drive local demand in Cyprus and Greece?**
2. **What factors will drive international demand for connectivity? How these factors impact the specific geographic region and route?**
3. **Are there any specific characteristics of this demand that should be taken into account?**
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**Please support your answers with as much detail as possible.**

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# Potential destinations and topology

There are broadly three options available when considering the topology of a new submarine cable:

* Cable direct to destination(s);
* Cable spur to existing/planned cable, which connects to destination(s); and
* Cable to existing/planned intermediate destination from which another cable connects to destination(s).

The above options offer different advantages and match different cases that are project and geography-dependent. It is however desired that the new cable serve both strategic targets that were described in chapter “Introduction”. In this regard the two Authorities welcome all potential approaches regarding destinations and topology from the stakeholders.

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| **Questions regarding the destinations and topology:**1. **To what destinations (cities/landing points) in Greece and Cyprus should a new submarine cable connect in order to best serve the strategic targets that were described in chapter “Introduction”?**
2. **What should be the topology for the new submarine cable system that best serves the strategic targets that were described in chapter “Introduction”?**
3. **What should be the proposed configuration and the design capacity for the new cable in terms of fiber pairs and bandwidth?**
4. **What would be the estimated CAPEX and OPEX of such a proposition? What revenue streams would you expect?**
5. **What provisions should be made to assure open access to all potential interested clients/users?**
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**Please support your answers with as much detail as possible.**

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# Plans for new cables

Given the pivotal importance of submarine cables for both Cyprus and Greece, it is important to collect information about any relevant investment plans and welcome approaches from any stakeholders in this regard.

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| **Questions regarding plans for new cables:**1. **Are there any new, mature investment plans for submarine cables that include a direct interconnection between Cyprus and Greece?**
2. **What is their overall route (including also the segments beyond Cyprus and Greece) and the respective destinations (cities/landing points)?**
3. **What are the companies involved in the investment plan and what is their role and involvement in the project (consortium partner, co-owner of a part of the cable, client/user of the cable system etc)?**
4. **What is the project budget and what level of financial commitments have been assured so far?**
5. **What is the current status of the deployment (i.e. initial discussion, market sounding, technical studies, roll-out)?**
6. **What is the cable configuration and the design capacity? Please provide details per segment in terms of fiber pairs/wavelengths/speeds.**
7. **What provisions are being made to assure open access to all potential interested clients/users?**
8. **What is the expected date for start of works and service availability (RFS)?**
9. **Specify any potential local partner.**
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**Please support your answers with as much detail as possible.**

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# Model of state intervention

To endorse the development of a new submarine system that will serve the strategic goals as described before, the Governments of Cyprus and Greece, plan to seek and use funds from the Recovery and Resilience Facility and/or the Connecting Europe Facility instruments, are also keen to explore additional measures that will facilitate such developments and remove possible obstacles. They will also seek ways to make sure that a certain amount of capacity will be allocated for the benefits of the local markets/consumers, the research and the public administration.

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| **Questions regarding the construction:**1. **What is the most suitable model for state intervention (i.e. co-ownership, grant, PPP project, IRU-lease agreement)?**
2. **What are the administrative/legal/technical burdens that have to be removed or minimized in order to facilitate the construction of such systems?**
3. **What type of services should the system provide to clients/users (capacity, wavelength, spectrum, fiber) to serve both strategic targets that were described in chapter “Introduction”?**
4. **What kind of benefits should be made available to the public sector, as funding partner (i.e. dedicated fibers/spectrum/λ/capacity/price discounts)?**
5. **What kind of provisions should be made and how they should be guaranteed in order for a certain amount of cable capacity to be used for the benefit of the local markets/consumers (i.e. ‘dedicated’ fibers/spectrum/wavelengths/capacity/ price discounts)?**
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1. According to various sources like ITU and Telegeography there are several routes between Cyprus and Greece. However, some of them reflect commercial agreements for IRUs on existing cables. [↑](#footnote-ref-1)
2. The current arrangement of CYNET’s connectivity with GEANT consists of a 4 Gbps link to Frankfurt and a 4 Gbps link to Athens which is physically implemented on submarine cables that connect Cyprus to Israel and from Israel to Greece. [↑](#footnote-ref-2)