## ΕΥΡΥΖΩΝΙΚΟ ΠΛΑΝΟ ΤΗΣ ΚΥΠΡΟΥ

## Σύνοψη Απαντήσεων Δημόσιας Διαβούλευσης

## Ερωτήματα

- Q1. Do you believe that the national targets set up in the Cyprus Broadband Plan are achievable? Please explain your response and submit your suggestions.
- Q2. Broadband networks operators are requested to confirm their deployment plans and define milestones for the monitoring the implementation of the above plans.
- Q3. What are your opinions/suggestions regarding the effective use of the available public funds (about €22 million) intended for the deployment of broadband infrastructure (and conditions) and aiming to support the achievement of second national target? Please explain your response in detail.
- Q4. Are there any other actions (in general) that can contribute to achieve the first general objective (Connect Cyprus) of the Digital Strategy of Cyprus? Please explain your response.
- Q5. What actions should be taken in order to decrease the cost of internet connection of 100Mbps? Please explain your response.
- Q6. Please provide comments regarding any other issue related to this public consultation.

	СҮТА	MTN	CABLENET	CYNET
Q1	Networks will be in place to	First national target (30Mbps) is	The national targets, concerning the	Research and Education
	enable Cyprus to meet the	achievable if the appropriate regulatory	coverage, are achievable subject to	Sector strongly believe that
	national targets. What	measures are in place so that vectoring,	following actions that need to be	the national targets are not
	needs to be promoted is	bonding and fiber are developed.	undertaken by the State or its	only achievable but also
	the demand in order to		appointed regulatory bodies:	mandatory.
	ensure that customers	Second national target (100Mbps) will	(a) Allow market players to develop	
	subscribe to the higher	depend on the FTTH final implementation	their own networks, both as	CYNET (Cyprus Research and
	speeds which will be	plan and the plans of the Government to	upgrades to the legacy systems but	Academic Network) has for
	available. It is therefore of	embrace LTE rollouts.	also new optical FTTx networks, in	some years now, increased
	crucial importance for the		an already highly competitive	the service provision to its
	achievement of the		internal access market (even LTE/4G	members to a recommended
	national targets to proceed		networks are valid technological	minimum of 40Mbps, and
	expediently with the		competitors for other fixed NGNs	optionally reaching up to
	implementation of		and they can deliver speeds	Gbps and their future plans
	measures which will boost		exceeding 100Mbps per	are to install, or lease, Dark
	the demand.		connection).	Fiber in at least all its major
			(b) Given that most areas on the island	member institutions (i.e.
	CYTA is engaged in an		will be covered by a multitude of	University of Cyprus, Cyprus
	investment plan which		access networks (i.e. a choice of up	University of Technology,
	ensures that will have a		to 6 or 7 competing networks), the	European University,
	network capable of		case for regulation of the wholesale	University of Nicosia, Cyprus
	providing speeds of 30		access on any of these networks	Institute, Frederick
	Mbps or higher for 97% of		becomes very weak. At least,	University, Cyprus Institute of
	the total households and		Cablenet will likely not roll out any	Neurology and Genetics,
	100 Mbps or higher for		further cable network if there is any	Open University, Uclan
	71% of the total		risk of regulation of its network. The	University, Neapolis
	households by 2020. The		only regulation that should be	University, Agriculture
	investments in fixed		maintained is the obligation of the	Research Institute, General
	network include		incumbent to continue providing	Hospital).
	technologies which		local loops and sub-loops and also	
	upgrade the capabilities of		for the SMP (Significant Market	Also, CYNET consider
	the copper network (as		Power) cases.	essential that all Students
	bonding and vectoring) and		(c) State must take actions to boost the	and Researchers home
	also investments in Fiber to		demand.	service provisions shall be

the Home (FTTH). In addition to that there are more investments in the mobile network which complement the investments in the fixed network.

For the demand to materialize, the Action Plan 2015-17 of the Digital Strategy which includes the promotion of e-services and the digitalization of the Government, the health and the education, need to be implemented without any further delays and at least by the end of 2017. If these actions are not implemented in time, Operators will be left with investments, the cost of which will be impossible to be recovered.

However, Cablenet does not believe that the above actions are enough to achieve the 50% required take-up with the current supply conditions. A major factor in increasing penetration is the price of high-speed internet connection which must be reduced significantly, otherwise Cyprus will fail to meet its second national target.

Let's take the current price of Cablenet's 120 Mbps service which is €99.90. The local access and core network cost only amount to about 22% of the costs (and is fundamentally fixed in nature and does not vary substantially with the speed of the connection) and the international capacity cost is around 78% (and is variable and directly related to the speed). This occurs only because Cyprus is an island and there is an objective cost for the undersea cables that connect the island primarily with continental Europe.

The OCECPR must study the international connectivity cost and issue a report or perhaps even proceed with regulation of the market if this is justified.

satisfied with at least 100Mbps. CYNET has the capacity and can offer the Internet part of the home connection with 100Mbps to their researchers and students.

Q2 CYTA confirms its plans – yearly review of the plans and modify them accordingly.

Government and all other stakeholders should proceed with their planning and execution of the actions which will boost the demand and further the take-up.

Framework of regulation is needed which will be supportive to investing.

MTN is currently planning its 4G and 3G expansion, and for the moment they cannot provide more data.

The availability of the outlined regulatory measures will dictate whether such plans are realistic, especially for the fiber to the home (FTTH) network plans.

Cablenet will keep investing in the network expansion of its cable network to sub-urban areas of the cities, already covered, as well as urban and sub-urban areas in Paphos. Cablenet also plans to upgrade its network to DOCSIS 3.1 in the near future.

The above network expansion will not deploy if there is any risk that Cablenet will be forced by OCECPR to offer broadband wholesale services on its network. Cablenet consider that any opening up of its network will be catastrophic for the company. Any regulatory uncertainty will be a significant investment-limiting factor.

Regarding monitoring, Cablenet proposes yearly network coverage reports from all the Operators to be submitted to the authorities.

CYNET is a non for profit organization created by the Council of Ministers, with a mission to deliver and support an advanced electronic network infrastructure and innovative networking services to the Cyprus Research and Education community.

There is not any Government funding since 2012. Projects like Dark Fiber connectivity, Schoolnet, and other collaboration with European and Regional Countries/programs require political will and support.

GEANT can be chosen, by the EU, as the pan European infrastructure network for all the government e-services.

- Q3 The funds shall be spent to facilitate the migration of internet broadband users to higher speeds. This can happen by using a multifaceted approach:
  - (a) the digitalization of the Government
  - (b) the promotion of digital awareness
  - (c) the acquisition of key digital skills
  - (d) incentives to businesses to be digital
  - (e) incentives to users.

One of the significant barriers to the migration to higher speeds is the unsuitability of the existing copper-based internal cabling of buildings to accept fiber. This barrier plays a significant role in the decision of the customers to migrate to higher speeds. Providing incentives, such as a voucher, directly to the owner(s) to cover the cost of the upgrade of the internal cabling will help the increase of the take-up. It is know that without appropriate infrastructure within the building (in building wiring), the FTTH will not realise its potential.

The funding shall include wireless broadband in the rural Cyprus (microwave fees or any other initiative to assist and facilitate wireless broadband in the rural Cyprus).

The funds should be used for the coverage of white spots that will consist of remote villages and rural areas (due to their low population density, commercial NGNs rollouts will not occur).

Alternatively, the funds could be used to improve the international connectivity of Cyprus, both for resilience reasons, but also because the key element to achieving the second national target is the reduction of the cost of international capacity.

A part of the public funding of 22 million Euro, which could have a huge impact/benefit for Cyprus, can be allocated for:

- (a) The high speed interconnection of the academic and research institutions.
- (b) The implementation of the "EDUROAM" service, where the ISPs can divert traffic with specific SSID to CYNET.
- (c) The implementation of the "Schoolnet" which is the network infrastructure of all Primary and Secondary Education institutions.
- (d) The high speed interconnection of Libraries, Museums, Archives, Cultural Institutions, Hospitals, etc, something that is performed in other European National Research and Education Networks (NRENs) like CYNET.

Q4	Designing a suitable	
	regulatory framework	
	which will help the	
	investments	

Lifting regulation in areas where there are more than one fixed networks is imperative.

Pushing towards, by a regulation, the reduce of the wholesale prices of access to the copper network has the potential of delaying the migration towards the New Generation Access networks.

Mobile Networks issues:

- (a) The main issue (barrier) in the rollout of mobile networks has been the inadequate application of the framework for the installation of base stations (average time of 14 months). This framework require immediate intervention so that the competent authorities are issuing the permits within the prescribed periods.
- (b) The availability and the pricing of ducting system used for backhaul purposes (fiber roll out) is of material importance for mobile broadband.
- (c) The international submarine cable market is also important and review could be justifiable to ensure that the market is sufficiently competitive.
- (d) High microwave fees hinder the mobile broadband rollout especially at the rural areas.

Fixed Networks issues:

- (a) Wholesale access products do not currently allow a sufficient margin in the fixed market.
- (b) Problematic access to ducts (owned by CYTA), since there is no provided GIS to the alternative providers and therefore the process is lengthy and costly. Also, the pricing of ducts is surrounded by legal uncertainty, as the incumbent does not follow the prescribed methodology.

It is essential to use NGA mobile networks to cover remote and rural areas where the costs and time frame of deploying wired networks are high. A support from the Government to the CYNET's future plans to deploy innovative electronic services (like high-definition video, telepresence, cloud computing, telemedicine, elearning, etc) for the Research and Education community.

A substantial reduction of the costing for submarine connectivity between Cyprus and countries in the region.

A political support for CYNET's efforts, as it is a part of European and other Regional projects like GEANT, EUMEDCONNECT, EUMEDGRID, LINKSCEEM, etc., to make Cyprus a gateway between the Middle East/Africa and Europe.

	(c) For FTTH, the State should take an active role (regulatory framework) in facilitating a good and competitive wholesale product, so that the alternative providers can prepare their products on time and in parallel to CYTA.	

The price reductions will materialize through competitive pressure and through the increase of the customer base.

Price regulation has to be absolutely avoided in either the retail or the wholesale part of the market.

To proceed the soonest with the actions that will boost the demand.

Pushing towards lower prices should not compromise the quality of the networks and the experience of the customers and also the security of the customer in accessing the internet.

As Q4 above.

Due to the geographical location of Cyprus and the fact that it is an island nation, remote from Europe, a major component of broadband services is the required international capacity to connect to the major hubs. International connections are currently provided through the undersea cables that connect Cyprus to other countries. The cost of international capacity is currently the major cost element (and also the only major variable cost) of high-speed data connections. On the other hand, a typical European operator does not have the cost (of circuits) of reaching Europe, but has only the cost of peering, resulting in a cost much lower than for Cypriot operators, by a factor of almost 10. Therefore, the direct comparison of broadband connections in Europe and in Cyprus is typically biased and unfair.

Cablenet outlines all the factors and calculations of the internet's cost, both for local access networks (essentially fixed in nature) and for international capacity, reaching on the conclusion that the cost of international capacity in Cyprus must be reduced by a factor of 10, until 2020, if the second national target is to be achieved (in Europe, 100 Mbps connections are available for prices around €40 to €50 per month).

For the Cyprus Research and Academic community actions could include:

- (a) Involvement in more National, European or Regional e-infrastructure projects.
- (b) Decrease the cost for international and national high speed links.
- (c) Long term contracts with organizations/institutions.
- (d) Increase the number of connected organizations.

taken, e substar (compe by some interna market reduction provision	some sort of corrective action is either by steps that will atially increase supply stition) and hence lower price or e sort of regulation of tional capacity, it is unlikely that forces will deliver the required on in price to enable the on of cost effective retail tions at 100 Mbps or more.	

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Q6	The figure of 99%	No answer.	It is essential as a country to have a high	CYNET is in the best position
	mentioned as the		quality of service and reliability in	to stimulate demand for
	percentage of mobile		international broadband connectivity	broadband services and to
	broadband coverage (in		services, since this is a crucial factor for	promote the digital society in
	section 3.2, at page 8) is		attracting international investments to	general for e-health and e-
	not accurate. The coverage		Cyprus, such as for the announced (by	education and specifically to
	for 3G services is currently		the Government) technological park	provide the e-infrastructure
	at about 90%.		and other high-tech industries.	for the development of:
				(a) e-Universities,
			Cablenet believes that the current	(b) e-health services,
			submarine cable networks are either	(c) e-learning and training
			not sufficiently redundant (same	programs,
			landing station in mainland Europe) or	(d) Public- private –
			are outdated (most of them are	partnerships to offer the
			reaching the end of their life span), and	means (e.g. Wi-Fi) to
			therefore new submarine cables are	access the internet at
			required.	
			required.	targeted groups.
			For these vectors the Covernment	Countries smaller or close to
			For these reasons, the Government	
			must ensure that necessary proper	Cyprus have invested in their
			incentives, including perhaps subsidies	National Research and
			or other economic instruments, that	Education Networks (NRENs)
			will promote and accelerate the landing	and have shown amazing
			of new cables in Cyprus, are provided to	achievements and results.
			interested parties for providing further	
			international capacity for the island.	