

CONSULTATION DOCUMENT

MCA analysis of the market for the provision of wholesale physical and virtual infrastructure access in Malta

Findings and proposals for consultation

MCA Reference: MCA/C/23 - 4925

Publication Date: 28 April 2023

 (+356) 2133 6840  info@mca.org.mt  www.mca.org.mt/

 Valletta Waterfront, Pinto Wharf, Floriana FRN1913, Malta

TABLE OF CONTENTS

1	Executive Summary	1
1.1	Summary of proposals on market definition and SMP assessment	3
1.2	Summary of proposals on remedies.....	6
1.3	Structure of the document.....	8
2	EU Policy and regulatory background	9
2.1	The European Electronic Communications Code	9
2.2	The 2020 Recommendation on relevant markets	11
2.3	The SMP Guidelines	14
2.4	Previous market analysis and regulatory decisions	15
2.5	Consultation with stakeholders and notification.....	17
3	The Relevant Retail Market.....	19
3.1	Background.....	19
3.2	The relevant retail product market.....	24
3.3	Retail competition dynamics	36
3.4	Key takeaways from retail market manifestations.....	42
4	Wholesale market definition	45
4.1	WLA in the 2020 EC Recommendation.....	45
4.2	The focal product – physical access and virtual access	46
4.3	The case for including physical infrastructure as part of the market	51
4.4	Substitutability of access via wireless technologies and virtual unbundled access	56
4.5	Substitutability of dedicated capacity to virtual unbundled local access.....	57
4.6	The relevant product market	57
4.7	The relevant geographic market.....	58
5	SMP Analysis of the Wholesale Market.....	59
5.1	Approach to the assessment of SMP	59
5.2	Evaluating the three criteria test.....	60
5.3	SMP assessment.....	62
5.4	Main conclusions from the SMP assessment.....	69
6	Remedies	71
6.1	Applicable remedies.....	71
6.2	Conditions for VULA	75

6.3	Conditions for physical infrastructure access	83
6.4	Conclusion on remedies.....	89
7	Consultation framework	91
	Annex 1 - Viability of infrastructure based competition	92
	Annex 2 - FTTH deployment in a demographic context.....	95
	Annex 3 - Approaches to bundling in the context of the ERT.....	98

1 Executive Summary

The Malta Communications Authority (MCA) is hereby setting out its views for the regulation of the wholesale market concerning the supply of access for the provision of fixed broadband services in Malta.

The MCA's overall objective of the proposed regulation is to enhance the investment climate and foster healthy competition in the gigabit-capable network environment. The ultimate goal is to enhance the provision of faster and superior broadband services to end-users in Malta, thereby increasing value for money and offering more choice to the end-user.

Gigabit offers are available to around 90% of households in Malta via Melita's cable network.¹ However, only around half of end-users in Malta have access to two or more gigabit offers. Widening choice in Gigabit offers and ensuring that the network infrastructure is future-proof will depend on stimulating additional investment in FTTH networks. The investments that have materialised to date have been critical in this respect. GO is rolling out its fibre-to-the-home (FTTH) network, with coverage close to 67% of all dwellings in Malta by the end of March 2023. GO's fibre investment has meant that this operator has over the years been less dependent on its legacy copper infrastructure, which does not support Gigabit speeds. Another important stimulus for FTTH deployment has come from the challenger Epic. However, Epic is still at an early stage of deployment, and its FTTH network covers only 5.8% of all dwellings in Malta².

It is important to note that competition in the majority of the national territory is reliant on wholesale access to GO's infrastructure. Epic relies on regulated access to VULA from GO outside its FTTH footprint, while Melita's network has been built in part on the basis of access to physical infrastructure historically granted to Melita by GO. Without these access facilities, the majority of the territory would not be competitively served, and Gigabit competition may not materialize as expected.

The MCA believes that a new examination of the market is necessary in light of the above and the observed shift from a scenario where competition beyond the existing incumbent and cable operators relies on service competition to a scenario that involves infrastructure-based competition in at least a part of the national territory. This ongoing development necessitates

¹ Melita has a Gigabit-capable network based on cable DOCSIS 3.1 technology, over which it connects approximately 90% of homes in Malta.

² Data as at the end of March 2023. The data for the total number of dwellings in Malta is supplied by GO. The figure stood at 355,697 by the end of March 2023.

a greater regulatory emphasis on facilitating infrastructure-based competition with a view to achieving more sustainable competition at the retail level in the medium term.

The MCA considers that some adaptations to the regulatory regime will be needed to ensure that infrastructure competition continues to evolve and to support end-user choice in Gigabit offers, particularly in areas where duplication of networks may not be viable.

The MCA estimates that, in theory within the timeframe of this review, around a quarter of dwellings in Malta could receive three Gigabit-capable offers based on end-to-end infrastructure competition³. However, for this outcome to be viable, costs need to be limited through the reuse of ducts and each of the three operators would need to have market shares of at least around 25%. It is however worth noting that the retail broadband market in Malta exhibits significant disparities, with the new entrant (Epic) only holding a very small market share of the relevant retail broadband market (at 1.5%)⁴.

Moreover, 65.9% of Epic's already limited user-base of retail broadband clients rely on the regulated VULA offer. Continued access to VULA, will be needed to enable Epic to grow its user-base sufficiently to support FTTH deployment as well as to match the nationwide coverage that its rivals are able to provide. Without VULA regulation, Epic's market share is likely to stagnate or even decline further, thus posing a major threat to this operator's business case for further investment in FTTH, which ultimately depends on achieving a certain minimum market share. In addition, having the same opportunity to access physical infrastructure, as is available to GO and Melita, is deemed crucial to support the ongoing deployment of FTTH infrastructure by Epic and thus to ensure a more even playing field in terms of the cost and timeframes associated with deployment.

The MCA considers that commercial wholesaling and joint or co-investment can contribute to promoting competition and facilitating market entry and expansion. The MCA is committed to taking any commercial agreements into account when setting its regulatory approach. The MCA would consider the potential for any such agreements to effectively foster competition and thus to potentially eliminate the need for SMP wholesale access regulation. The MCA would view favourably those commercial arrangements that involve a long-term commitment by the incumbent to provide access on reasonable terms, particularly in areas where there is limited viability for an additional VHCN network.

However, to date, the MCA has not been informed of any such agreements having been reached, despite allowing several months for the conclusion of negotiations.

In line with the provisions of the European Electronic Communications Code (hereafter 'the EECC'), the MCA will carry out a new market review within a five-year time window. However,

³ These estimates are based on a study carried out by WIK-Consult.

⁴ This excludes subscriptions based on fixed wireless technology. In that case, i.e. taking into account such subscriptions for calculating market shares, Epic's market share would be 5.1%.

the MCA will advance such market review in the event that the market situation changes significantly, for example, in case of a commercial agreement between Epic and GO and / or a significant change in market structure or competitive dynamics.

1.1 Summary of proposals on market definition and SMP assessment

In this market analysis, the MCA identifies the retail and wholesale markets relevant to the provision of fixed broadband services in Malta. The MCA begins by defining the retail product market, considering all network operators and service providers currently offering fixed broadband services to end-users in Malta. Next, the MCA evaluates the level of competition in this market. Based on the results of the retail competition assessment, the MCA then proceeds to define the relevant wholesale market. To do this, the MCA examines the wholesale network access services used by GO, Melita, and Epic to provide retail fixed broadband services in Malta, assessing the substitutability of the different types of wholesale access across multiple technologies.

Throughout the assessment, the MCA gives utmost regard to the 2020 EC Recommendation on Relevant Markets and the 2018 EC Significant Market Power (SMP) Guidelines.⁵ As set out in the Explanatory Note to the 2020 EC Recommendation on relevant product and service markets⁶, the assessment is based on a “modified greenfield approach”⁷.

1.1.1 Retail market definition and assessment of competition

The MCA carried out a substitutability assessment for retail broadband products supplied over copper VDSL, FTTH and cable DOCSIS 3.1 technologies, taking into account the following aspects:

- the functionality of products (in terms of speed coverage and reliability);
- applicable service and payment terms; and
- price (based on monthly access fees).

⁵ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018XC0507%2801%29>

⁶ The 20 Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation (the ‘20 Recommendation’) outlines the electronic communications markets that are susceptible to ex ante regulation. The 2020 Recommendation replaced the 2014 Recommendation on Relevant Markets. The 2020 Recommendation is available at <https://ec.europa.eu/newsroom/dae/redirection/document/72437>.

Accompanying the 2020 Recommendation is an Explanatory Note that is available at <https://ec.europa.eu/newsroom/dae/redirection/document/72442>

⁷ The MCA applies the “modified greenfield approach” to conduct the analysis, i.e. the exercise is conducted from a forward-looking perspective in the absence of any regulation that would result from a finding of SMP at the level of the market under assessment.

Based on this assessment, the MCA determined that the relevant retail product market encompasses fixed broadband supplied over GO's copper network, as well as fixed broadband supplied over GO's and Epic's fibre networks, and fixed broadband supplied over Melita's HFC DOCSIS 3.1 network.

This product market includes mass-market fixed broadband, regardless of the type of contract (i.e., two-year contract vs. month-on-month, bundle vs. stand-alone) or the type of client (i.e., business vs. residential). However, broadband services supplied over fixed wireless access and mobile access technologies are not considered part of this retail product market, and high-quality connectivity services designed for business use are also excluded.

The relevant retail market is considered to be national in scope. This is because all three broadband service providers – GO, Melita and Epic - offer retail broadband services nationwide. There are some differences in the degree of competition (as exhibited by differences in the level of choice and quality) in particular between areas where Epic has deployed FTTH and other areas. Nonetheless, these differences are not sufficiently strong as to warrant a geographic segmentation of the retail market. Additionally, Epic's prospects for future fibre network expansion are also unclear and the MCA observes that nationwide prices apply for established operators.

The MCA also carried out an evaluation as to how competition is developing at the retail level and determined that:

- Epic's entry has had some impact on the marketing strategies of established operators, such as offering discounted access fees for a limited period of time or including free TV with dual play offers comprising broadband and telephony. However, it is not clear whether such strategies will be sustained within the timeframe of this review. The MCA does not discount the possibility that these offers are a retaliation to Epic's market entry with the intention to forestall a potential competitive threat from Epic.
- Epic has not succeeded in significantly increasing its market share. In those areas where it has deployed FTTH, Epic's market share stood at around 2.5% by the end of 2022⁸.
- Melita and GO's fixed ARPU levels remain significantly higher than Epic's, and established operators have effectively seen an improvement in their ARPUs over the past months. Additionally, the profitability of established operators remains strong, despite competition from Epic, including a significant discount in the monthly access fee for the first six months of subscription.
- End-users' choice remains limited in several respects, particularly in terms of the availability of Gigabit offers. The market position of Epic is also uncertain, with a low retail market share and this operator's market presence still heavily reliant on regulated access to virtual

⁸ Epic's market share figure is calculated on the basis of own-FTTH subscriptions reported by this operator – at 1,083 by the end of 2022 - as a proportion of the total number of dwellings at the localities of Attard, Balzan, Birkirkara and Mosta, at 41,381 (end December 2022).

unbundled local access (VULA). The prevalence of bundle plans in the market also makes it challenging for new entrants to build market share.

The aforementioned factors indicate that in the absence of regulatory intervention, competition in Malta's retail market for fixed broadband services may be limited. Even in areas where competition has emerged, the MCA is concerned that it may not last or may only be limited to locations where Epic has implemented an FTTH network. An analysis of the underlying wholesale market is therefore required.

1.1.2 Wholesale market definition and assessment of competition

The MCA has determined that the focal product in the wholesale market encompasses the provision of virtual unbundled local access, which represents the long-term replacement for physical unbundled access that was previously available over GO's copper network.

VULA is a key product because unbundled access to the local loop and to the sub-loop are not feasible options in practice. Copper unbundling would not enable alternative operators to compete with GO's FTTx network, and the architecture of GO's FTTx network does not permit physical unbundled access. On the other hand, virtual unbundled local access over GO's FTTx network offers access seekers (such as Epic) a highly flexible and customizable solution that can approach the functionalities available via physical access, while enabling competitors to offer advanced broadband services to their end-users.

The MCA has also determined that access to physical infrastructure, mainly through the duct network, assumes significant relevance in facilitating further fibre deployment by telecom operators in Malta, and could be seen as a potential substitute for VULA during the period while fibre is being deployed. The MCA considers that in a market the scale of Malta, it is not relevant to distinguish between "local" and "central" access in terms of the location of the access point. However, given developments since 2020, the potential for an access seeker to differentiate their retail products on the basis of the wholesale products does provide a relevant distinguishing factor. In this context, the MCA considers that Layer 3 bitstream access does not provide a substitute for Layer 2 bitstream access / VULA and PIA, which provide flexibility for the access seeker to depart from the quality of service levels offered by the access provider. In addition, it is relevant to take into account that an operator such as Epic that has already invested in deploying on the basis of FTTx would face significant switching costs in migrating to a Cable-based bitstream offer.

The MCA therefore concludes that the scope of the wholesale product market under investigation (hereafter referred to as wholesale physical and virtual infrastructure access) encompasses (i) the provision of wholesale physical access over the copper network; (ii) the

provision of FTTx virtual unbundled local access (VULA); and (iii) access to physical infrastructure via ducts deployed for the purpose of providing electronic communications⁹.

The MCA has also carried out an assessment to determine the extent to which competition dynamics are working in the defined wholesale market.

On the basis of the findings from the three criteria test, the MCA concludes that wholesale market for the provision of virtual and physical access in Malta is susceptible to ex ante regulation. Based on the subsequent market power assessment, the MCA has determined that GO has the ability to act independently in the market under investigation and is therefore proposing to designate this operator with Significant Market Power (SMP) in this market. GO's SMP designation is based inter alia on its vertical integration, control of essential infrastructure which is not easily duplicated, and limitations in switching potential. Specifically, in the absence of wholesale regulation, GO would have the ability and incentive to engage in various forms of conduct that could distort downstream competition and/or harm consumers including:

- GO could refuse to supply access to its physical infrastructure to Epic, and thus restrict the ability of Epic to deploy its own FTTH network
- GO could also restrict access to VULA or provide access on less favourable terms compared to those obtained by its own downstream businesses; and
- GO could set excessive wholesale charges for access to its physical infrastructure and for VULA access or engage in price squeeze behaviour.

Ultimately, GO can act independently of customers and other network operators in its wholesale pricing structure for the wholesale market under investigation. Hence, the MCA will take ex ante regulatory measures to address these market shortcomings.

1.2 Summary of proposals on remedies

Having defined the wholesale market relevant to the provision of physical and virtual infrastructure access in Malta and after having carried out an assessment of competition in this market, the MCA sets out the applicable remedies to address the market shortcomings identified.

⁹ The MCA considers that access to physical infrastructure owned by non-ECN providers does not pose a direct competitive constraint on a hypothetical monopolist of wholesale access to GO's physical infrastructure for deploying a telecoms network. Hence, such access is not deemed part of the wholesale market under investigation.

The key measures that are relevant to countering the identified competition problems are mainly two: Virtual Unbundled Local Access (VULA) and Physical Infrastructure Access (PIA).

As already stated, the MCA has allowed several months for the potential conclusion of commercial negotiations between GO and EPIC regarding access to VULA and PIA, however no agreement has been reached to date. As foreseen by the EECC, an NRA would consider the implications, for the market analysis and imposition of remedies, of commercial agreements and adequate commitments offered by the SMP operator to the NRA. However, this is not the case in Malta at the current time, and should there be any significant credible developments, such implications would be considered by the MCA.

VULA has been mandated since 26 February 2016 and has been in use since August 2019, based on a wholesale access agreement that was signed by Epic in October 2018. On the other hand, access to the SMP operator GO's ducts has been available to Melita since June 1992, based on a commercial agreement that was reached between the parties at a time when GO was still in public ownership.

In relation to VULA, the technical and economic aspects are examined by the MCA and a number of proposals are laid out to update this remedy in line with market developments, the assessment of competition, and regulatory best practice including the Commission's newly proposed Gigabit Recommendation. Being cognisant that the deployment of VHCNs in Malta is subject to ongoing developments, the MCA also proposes to establish conditions for the potential lifting of remedies on a geographically segmented basis.

In relation to PIA, the proposed measures take cognisance that duct access is already granted by GO to Melita under agreement, and the proposed measures are intended to extend the benefits to competition from opening access to such infrastructure.

In laying out the considered remedies, the MCA takes into account the Commission Recommendation of 2010 on access to NGAs, the Commission Recommendation of 2013 on non-discrimination and costing methodologies, and the Commission Recommendation of 2020 on Relevant Markets. Since the former two Recommendations of 2010 and 2013 (on access to NGAs and on non-discrimination and costing methodologies respectively) are set to be repealed once the Commission issues its new Gigabit Recommendation that it has already published in draft form, reference has also been made to the proposed Gigabit Recommendation. The Commission intends to adopt the latter Recommendation in its final form before the MCA adopts its final decision, and the Authority intends to take cognisance of any changes should it be necessary.

1.3 Structure of the document

The executive summary only briefly outlines the MCA's proposals on market definition, SMP findings and remedies. More details on the reasoning behind these proposals is found in the following chapters:

- **Chapter 2** outlines the regulatory backdrop to this analysis, with a focus on the EU policy for carrying out an SMP analysis for electronic communications markets. This chapter also outlines the current ex ante regulatory regime underpinning the markets under investigation.
- **Chapter 3** provides an analysis of the provision of retail fixed broadband, starting with the definition of the relevant retail market. In this regard, the focus is on the capabilities of fixed and wireless technologies and implications for substitution in the provision of broadband services in Malta. The latter part of this chapter outlines the prospects for competition in the relevant retail market, based on an assessment of consumer choice, quality of service and price.
- **Chapter 4** outlines the definition of the relevant wholesale market. The MCA starts by identifying the focal product of the market and takes into account national circumstances when evaluating the substitutability between different forms of wholesale access that are currently supplied in Malta. The MCA then evaluates the role of physical infrastructure in Malta and outlines the substitutability of physical infrastructure access with the identified focal product. The MCA then determines the geographic scope of the defined wholesale market.
- **Chapter 5** comprises an assessment of competition of the defined wholesale market and a detailed SMP assessment based on several criteria. In carrying out this assessment, the Authority adopts the "modified greenfield approach".
- **Chapter 6** outlines the MCA's proposed regulatory approach in view of findings resulting from the Three Criteria Test carried out on the defined wholesale market.

2 EU Policy and Regulatory Background

The MCA is responsible for the regulation of the Maltese electronic communications sector and the supervision of compliance with the sector's regulations. This chapter provides a general overview of the main legislative tools and regulatory principles upheld by the MCA to carry out these tasks (see sections 2.1 to 2.3 below).

This chapter also provides a summary of the current regulatory remedies that apply on the designated SMP operator (namely GO) in the 'Unbundled Infrastructure Access Market' (ex-Market 4 of the 2007 EC Recommendation) that was published on the 6th of March 2013 (see section 2.4 below).

2.1 The European Electronic Communications Code

The European Electronic Communications Code (hereafter referred to interchangeably as 'the EECC' or the 'the Code') underpins the regulation of the electronic communications sector in Malta. The new Directive 2018/1972 of 11 December 2018 establishing the EECC entered into force on 20 December 2018¹⁰. Malta transposed the EECC into national legislation in September 2021 after national consultation¹¹.

The overarching objective of the Code is to promote investment through sustainable competition, encourage efficient and effective use of radio spectrum, maintain the security of networks and services, and provide a higher level of consumer protection.

The Code effectively sets the regulatory framework for market reviews, such as the obligation to carry out periodic reviews of certain electronic communications markets. In this context, the MCA seeks to satisfy various economic and legal tests throughout the execution of its market analysis function and adopts a standard three-stage approach for its market analyses. Specifically, the MCA first defines the relevant market, then conducts an SMP assessment, and finally imposes remedies where SMP is determined.

¹⁰ Link to EU Directive 2018/1972: <http://data.consilium.europa.eu/doc/document/PE-52-2018-INIT/en/pdf>

¹¹ See https://meae.gov.mt/en/Public_Consultations/MEIB/Documents/Electronic%20Communications%20Framework%20Review%20-%20Consultation%20Document.pdf

2.1.1 Transposition of the Code into national legislation

The Code was transposed into national legislation in September 2021, with Malta adopting the provisions of the EECC through various laws and regulations¹²:

- The Malta Communications Authority Act (Chapter 418)
- The Electronic Communications (Regulation) Act (Chapter 399)
- The Utilities and Services (Regulation of Certain Works) Act (Chapter 81)
- The Electronic Communications Networks and Services (General) Regulations (referred hereafter as the 'ECNSR'; SL 399.48)
- The Single European Emergency Call Service ('112' number) and The European Harmonised Services of Social Value ('116' numbering range) Regulations (S.L. 399.43).

2.1.2 The ECC and market review process

The EECC is transposed in Maltese legislation and requires the MCA to carry out periodic reviews of electronic communications markets. The procedural aspects relating to market analysis and significant market power are reflected in subsidiary legislation under Cap. 399.

The market review process is carried out in three stages, with each stage elaborated by the ECNSR regulations as described below:

- Regulation 54 of the ECNSR stipulates that the MCA tailors its market definition (Stage 1 for the purposes of the current analysis) on national circumstances, taking utmost account of all applicable guidelines and in accordance with the procedure referred to in article 4A of the Malta Communications Authority Act and regulation 21.
- Regulation 51(2) of the ECNSR focuses on the SMP assessment (Stage 2 for the purposes of the current analysis) and states that 'An undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, namely a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers'.
- Regulation 51(3) of the ECNSR states that national regulatory authorities (hereafter referred to as 'NRAs') 'shall take into the utmost account the guidelines on market analysis and the assessment of significant market power published by the European Commission pursuant to regulation 52'.
- Regulation 51(4) of the ECNSR states that 'where an undertaking has significant market power on a specific market, the Authority may also designate that undertaking as having significant market power on a closely related market, where the links between the two markets allow the market power held on the specific market to be leveraged into the

¹² Link to all relevant legislation: <https://www.mca.org.mt/regulatory/legislation>

closely related market, there by strengthening the market power of the undertaking. In such instances the Authority may consider remedies aiming to prevent the application of such leverage in the closely related market pursuant to regulations 56, 57, 58 and 61’.

- Regulation 54(8) of the ECNSR focuses on the implementation of ex ante remedies (Stage 3 for the purposes of the current analysis) and underlines that ‘where the Authority determines that, in a relevant market the imposition of regulatory obligations in accordance with sub-regulations (1) to (5) is justified, it shall identify any undertakings which individually or jointly have a significant market power on that relevant market in accordance with regulation 51. In doing so the Authority shall impose on such undertakings appropriate specific regulatory obligations in accordance with regulation 55 or maintain or amend such obligations where they already exist if it considers that the outcome for end-users would not be effectively competitive in the absence of those obligations’.
- Where regulatory obligations already exist in the market(s) under investigation, a new finding of SMP would lead the MCA to maintain or amend the existing regulatory conditions accordingly. If, on the other hand, the finding of SMP cannot be ascertained, the MCA would have to withdraw such regulation, in accordance with regulation 54(6) of the ECNSR, subject to an appropriate period of notice given to all parties affected by such withdrawal.
- Regulation 54(7) also foresees the possibility of regulatory obligations being withdrawn from an already regulated market and states that ‘The Authority shall ensure that parties affected by a withdrawal of obligations done in accordance with this regulation, receive an appropriate notice period, defined by balancing the need to ensure a sustainable transition for the beneficiaries of those obligations and end-users, end-user choice, and that regulation does not continue for longer than necessary: Provided that when setting such a notice period, the Authority may determine specific conditions and notice periods in relation to existing access agreements’.

Regulation 54(1) of the ECNSR also states that the MCA carries out its market reviews and in doing so may seek the advice of the competent authority responsible for completion (‘National Competition Authority’ or ‘the NCA’).

2.2 The 2020 Recommendation on relevant markets

The Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation (hereafter referred to as the ‘2020 EC Recommendation’) lists two markets in which ex ante regulation might be warranted:

- **Market 1:** Wholesale local access provided at a fixed location
- **Market 2:** Wholesale dedicated capacity

The latest version of the Recommendation was published in December 2020¹³, following earlier versions published in 2003, 2007 and 2014.

2.2.1 Focus of the current analysis

The focus of the current analysis is Market 1 of the 2020 EC Recommendation, which concerns the provision of ‘*Wholesale local access provided at a fixed location*’. The Staff Working Document accompanying this Recommendation¹⁴ makes several statements that are relevant to the current investigation, as listed hereunder:

- (on page 48) At present, the Wholesale Local Access (WLA) market primarily consists of physical access products as well as those virtual access products that mimic the capabilities of physical access (VULA) enabling transmission of internet and related data services¹⁵. Copper local loop unbundling (LLU) and copper sub-loop unbundling (SLU) – although to a decreasing extent – are still applicable access products used throughout the Union.
- (on page 45) Local access markets typically include access via copper, FttC and FttH, while central access may also include coax cable.
- (on page 48) At least in the near term, access to FttH, FttB or FttC/VDSL (either PtP or PtMP) network should be considered as a substitute to traditional copper LLU. However, in particular where the copper network has not been upgraded to FttC/VDSL and FttH/FttB has overtaken copper as the dominant technology, a break in the change of substitution between broadband technologies might increasingly occur.
- (on pages 40 and 45) Access to the network can be granted at several network levels, at central or local level. Local access is usually defined as access at the MDF/ Optical Line Terminal (OLT)¹⁶ or closer to the customer, while central access is provided at one

¹³ Link to Commission Recommendation of 18.12.2020 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive (EU) 018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020H2245>

¹⁴ Explanatory Note to the 2020 EC Recommendation:

<https://ec.europa.eu/newsroom/dae/redirection/document/72442>

¹⁵ The Explanatory Note also underlines that, in principle, it is not adequate to include civil engineering infrastructures in the market given their lack of substitutability with data transmission products. Access to such an infrastructure may constitute nevertheless a remedy on the WLA market or based on national circumstances a separate market.

¹⁶ An optical line terminal is a device which serves as the service provider endpoint of a passive optical network.

or few interconnection points. Full replication of the network access occurs when operators can build the entire access transmission channel to an end-user location, i.e. the local access or local loop. Following a typical demand and supply substitutability analysis, network access products may fall into different broadband wholesale access markets.

- (on page 49) There are technical limitations regarding the physical unbundling of fibre PtMP topologies and VDSL vectoring deployments. Experience under the Article 7 procedure has shown that many NRAs regulate virtual access products that functionally replicate the key features of physical unbundling. Such virtual access products should be included in the WLA market. VULA characteristics should be applied not only in case of FttC/VDSL and G.fast, but also in the case of xPON based networks, unless these allow for wavelength unbundling.
- (on page 45) The question as to whether the market should be defined narrowly (local¹⁷) or more broadly (local and central) should be based on a number of factors such as a proper evaluation of the degree of virtualisation of wholesale access products, the technical specifications of WLA and WCA products, the observed patterns of wholesale and retail demand substitution, as well as the extent of indirect constraints.
- (on page 49) In order to identify precisely the boundaries of the WLA market, NRAs should assess, in line with competition law principles, the constraints stemming from cable and other platforms (e.g. LTE) used to provide services on the retail broadband market.
- (on page 49) Cable networks are already capable of providing IP-based bitstream, as defined in Market 3b of the 2014 EC Recommendation. With the transition to DOCSIS 3.1 FD (4.0) accompanied by the full digital use of the coax cable spectrum, a Very High Capacity (VHC) bitstream or VULA equivalent could also be defined for DOCSIS-based access networks. This is however not the case yet. The offering of VULA is likely to be technically feasible once DOCSIS 4.0 is implemented by operators.
- (on page 51) The impact of alternative infrastructures on infrastructure-based competition needs to be monitored and assessed on a case-by-case basis and direct or indirect constraints from, in particular, cable should be taken into account in NRAs' assessment. Indeed, SMP access regulation should be applied only where this is necessary in order to address – under “modified greenfield approach” – a lack of effective competition at the retail level. It should thus be removed as soon as competition is achieved at retail level, which is sustainable in the absence of (wholesale) regulation.
- (on page 62) According to Article 72 of the Code, NRAs may impose obligations on undertakings with significant market power to meet reasonable requests for access, and use of, civil engineering. This new provision provides a more flexible tool compared to the previous practice of many NRAs, to impose duct and aerial pole or bracket access

¹⁷ A report drafted by WIK Consult entitled 'Future electronic communications product and service markets subject to ex ante regulation Recommendation on relevant markets' states on Table 5-4, page 140 that nearly all NRAs consider that wholesale local access is not limited to physical access but includes also virtual access (VULA).

purely as an ancillary remedy in market 3a of the 2014 EC Recommendation (wholesale local access provided at fixed location).

- (on page 62) The Code allows for a specific physical infrastructure access (PIA) remedy, which can be imposed as a stand-alone remedy when denial of access, or access given under unreasonable terms and conditions having a similar effect, would hinder the emergence of a sustainable competitive market and would not be in the end users' interest. In these cases, NRAs may impose obligations of access to physical infrastructure, even if the latter is not included as a stand-alone product in the relevant market in accordance with the market analysis¹⁸. This is particularly relevant as it can be imposed as a stand-alone remedy in different regulated markets when needed.

2.2.2 Taking into account national circumstances

The MCA underlines that the 2020 EC Recommendation seeks to promote harmonisation across the European Union by ensuring that the same product and service markets are subject to a market analysis in all Member States. However, NRAs are still able to regulate markets that differ from those identified in the 2020 EC Recommendation, where this is justified by national circumstances.

This means that whilst the MCA takes utmost account of the 2020 EC Recommendation, it remains committed to define relevant markets appropriate to national circumstances.

2.3 The SMP Guidelines

The European Commission issues guidelines on market definition and the assessment of significant market power. The first set of SMP guidelines was published in 2002 under the EU regulatory framework for electronic communications networks and services. In 2017, the European Commission initiated a review of these guidelines, in view of the adoption of the Code. The new SMP guidelines applying to the telecoms sector were officially published on 26th April 2018¹⁹, alongside an Explanatory Note²⁰.

The MCA takes into account these guidelines when carrying out the market analysis to determine whether an undertaking has SMP in accordance with the procedure referred to in regulation 54(2) of the ECNSR. An undertaking shall be deemed to have SMP if, either

¹⁸ Article 72(2) of the Code.

¹⁹ Communication from the Commission - Guidelines on market analysis and the assessment of significant market power (SMP) under the EU regulatory framework for electronic communications networks and services: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018XC0507\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018XC0507(01)&from=EN)

²⁰ Staff Working Document - Guidelines on market analysis and the assessment of SMP under the EU regulatory framework for electronic communications networks and services: <https://digital-strategy.ec.europa.eu/en/library/staff-working-document-guidelines-market-analysis-and-assessment-smp-under-eu-regulatory-framework>

individually or jointly with others, it enjoys a position equivalent to dominance, namely a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.

In any case, the Authority shall act in accordance with European Union law and shall take into the utmost account the guidelines on market analysis and the assessment of significant market power published by the European Commission pursuant to regulation 52 of the ECNSR.

More specifically on each stage of the market analysis, the SMP Guidelines specify the following:

- The market definition is based on the assessment of demand and supply-side substitution and the application of the so-called 'hypothetical monopolist' or 'SSNIP test'. This test assesses whether or not it is profitable for a hypothetical monopolist of a focal product to impose a small but significant and non-transitory increase in price (a SSNIP) above the competitive level (typically 5 to 10%). Ultimately the sustainability of a SSNIP on the focal product would depend on whether alternative products are sufficiently substitutable for the focal product itself. A similar framework of assessment is applied in the case of the geographic definition on the market, as a means to ultimately analyzing competitive conditions for the purposes of determining whether ex-ante regulation is required or not. The focus in regard to the geographic market definition is on whether a common pricing constraint could be determined.
- NRAs need to take into account several criteria to determine whether or not an undertaking can behave to an appreciable extent independently of its competitors, customers and consumers. These criteria include market shares, barriers to entry / expansion, control of infrastructure not easily duplicated, economies of scale / scope, vertical integration and potential competition amongst others.
- A proposal for regulatory intervention would be made in case SMP is determined. If no SMP is determined in relevant markets that are regulated at the time of assessment, existing regulation would have to be withdrawn.

2.4 Previous market analysis and regulatory decisions

This section provides an overview to the 2013 MCA decisions concerning markets for access to data and related services at a fixed location. Given that these decisions were published in 2013, the defined markets at the time reflected the 2007 EC Recommendation on relevant markets. In this respect, the MCA defined two markets (i) a market for '*wholesale unbundled infrastructure access*'²¹, where GO was designated with SMP and regulatory obligations imposed on this operator and still applying to date, and (ii) a market for '*wholesale broadband*

²¹ See link: <https://www.mca.org.mt/sites/default/files/decisions/final-decision-market-analysis-of-the-wholesale-infrastructure-access-market-market-4-060313.pdf>

access²², for which the MCA deemed that no regulatory intervention was required. Following the decision concerning wholesale unbundled infrastructure access, the MCA embarked on the process to implement the access remedy based on Virtual Unbundled Local Access (VULA). The relevant decision was published in 2016²³.

2.4.1 The 2013 MCA Decisions

The MCA carried out a round of market analyses in 2012, involving the wholesale unbundled infrastructure access market (Market 4 of the 2007 EC Recommendation on relevant markets) and the wholesale broadband access market (Market 5 of the 2007 EC Recommendation on relevant markets). The relevant MCA decisions were published in March 2013. More specifically for each analysis:

- For the wholesale broadband access market, the MCA determined that the relevant product market comprised all self-supplied wholesale broadband products supplied over the copper, cable and wireless networks and those wholesale access products supplied via existing broadband networks to third-party ISPs. The relevant market was deemed to be national in scope.

No operator was designated with SMP in this market²⁴.

- For the wholesale infrastructure access market, the MCA defined the relevant product market as comprising wholesale unbundled access, including shared access to metallic loops and sub-loops made available for the purpose of providing broadband and voice services. The relevant geographic market was deemed to be national in scope.

GO was designated with SMP in this market, and regulatory remedies were imposed on this operator, including the obligation to offer a Layer 2 wholesale access product referred to as Virtual Unbundled Local Access (VULA), allowing an access seeker to virtually connect to subscribers over GO's fibre network.

2.4.2 The implementation of VULA

The MCA published a decision in 2016 on the implementation of VULA entitled '*Virtual Unbundled Access to Fibre-to-the-Home, Response to Consultation and Decision*'. This decision was focused on ensuring that all providers have equal access to fibre-to-the-home technology. This included establishing technical and economic specifications, as well as a

²² See link: <https://www.mca.org.mt/sites/default/files/attachments/decisions/2013/final-decision-market-analysis-of-the-wholesale-broadband-access-market-market-5-060313.pdf>

²³ See link: <https://www.mca.org.mt/consultations-decisions/virtual-unbundled-access-fibre-home-response-consultation-and-decision>

²⁴ Case MT/2012/1375.

methodology for setting wholesale charges for virtual unbundled access to the fibre network. The decision was in response to the findings of the SMP in Market 4²⁵.

In October 2018, Vodafone Malta (now Epic) notified the MCA that it had reached an agreement with GO for the take-up of the VULA access offer²⁶. This represented a breakthrough in the actual implementation of the regulated VULA access offer, as it was the first access arrangement since the exit of ISPs several years earlier following the withdrawal of regulation in 2010. Vodafone Malta was able to introduce retail fixed broadband services over GO's fibre network, positioning itself as a potential disruptor in the retail market competition dynamics via access-based competition.

Epic still relies on the regulated VULA to offer retail fixed broadband services, notwithstanding having launched a 2Gbit/s broadband offer based on its own FTTH infrastructure in the locality of Mosta in April 2021 and subsequently in the localities of Balzan, Lija and Birkirkara. Almost 66% of this operator's FTTH broadband clients at the end of 2022 were supported by the regulated VULA.

2.5 Consultation with stakeholders and notification

The MCA is responsible for carrying out reviews of electronic communications markets in accordance with Article 9 of the Electronic Communications (Regulation) Act. The market review exercise includes the definition of relevant markets that are appropriate to national circumstances and an ex-ante market power (or dominance) assessment that is carried out in accordance with the principles of competition law. The MCA's goal is to ensure that regulation remains appropriate in the light of changing market conditions by assessing the adequacy of competition in the market. The MCA will take into account the trends and technologies that are shaping the market, as well as the competitive dynamics, to determine whether existing regulations are adequate or whether new regulations are needed.

The MCA calls all interested parties to submit their feedback to the proposals set out in this consultation document by the 16th of June 2023.

The MCA will consult on the main findings of this review with the National Competition Authority ('the NCA'), as indicated under Article 4 of the MCA Act and in view of a cooperation agreement signed by the MCA with the Office of Fair Competition, succeeded by the Office for Competition forming part of the Malta Competition and Consumer Affairs Authority ('the

²⁵ Of relevance in this respect is that the MCA constantly monitors the VULA wholesale charges, Key Performance Indicators (KPIs) and Service Level Agreements (SLAs) and Service Level Guarantees (SLGs) associated with the VULA offer.

²⁶ This happened chronologically after Melita and Vodafone Malta called off their proposed EUR506 million (USD595 million) merger, which was first announced in May 2017.

MCCAA'), on 20th May 2005. The MCA will be publishing any comments forwarded by the MCCAA at a later stage in the response to this consultation document.

As required by Regulation 7 of the ECNSR, the MCA will notify the findings of this market review as a draft measure to the European Commission and to other NRAs following the closure of the national consultation phase. The Commission would thereafter issue an opinion on the notified draft measure in view of its compatibility with Community law. The MCA will publish the relevant decision following the publication of the Commission's notice.

3 The Relevant Retail Market

This market review focuses on the provision of wholesale local access (hereafter, referred to as 'WLA) services that serve as an upstream input in the supply of a range of downstream wholesale and retail services, which are typically used by end users to access fixed broadband, fixed telephony and TV. Access seekers also use WLA to provide retail services to end users. Hence, competition in retail fixed broadband markets depends on the deployment of own infrastructure, or by purchasing wholesale inputs provided by another operator / service provider in the WLA market.

The extent of self-supply of WLA and access seeker demand for WLA is a derived demand. This derived demand is driven by end user demand for retail broadband. It is therefore necessary to consider the dynamics of the relevant retail market and whether these dynamics materially impact competition at a wholesale level. As already indicated above, the derived demand for WLA essentially reflects end-user demand for fixed broadband, but it is relevant to underline in this regard that there is a strong tendency for operators / service providers operating in Malta to offer fixed broadband alongside TV and fixed telephony retail services as part of a bundle. 92% of all fixed broadband subscriptions are currently sold with at least one other related retail service.

In line with the 2020 EC Recommendation and its Explanatory Note, any analysis of a wholesale market must be preceded by an assessment of the competitive conditions in the related retail market, absent regulation. Hence, the analysis of the WLA market in Malta will be preceded by the definition of the relevant retail market and an assessment of retail competition dynamics in order to outline the prospects for competition in the retail market. The assessment is forward-looking in nature, taking into account national circumstances, and is based on the "modified greenfield approach" i.e. examining the situation that would arise in the retail market if wholesale regulation was not present. The MCA will review the market conditions, trends and technologies, as well as the competitive dynamics, to determine whether existing regulations are adequate or whether new regulations are needed. This will help ensure that the market is effectively competitive and that consumers have access to a wide range of products and services at fair prices. The outcome of the retail market assessment will inform the market definition and assessment of the relevant upstream WLA market. In this regard, the MCA will consider whether any effective direct demand-side substitutes, direct supply-side substitutes or indirect retail constraints exist, such that they would effectively constrain the price setting behaviour of a hypothetical monopolist supplier of WLA.

3.1 Background

By way of context, the MCA is hereunder outlining some key insights that are of relevance to the assessment at the retail level.

3.1.1 Malta's broadband providers and underlying technologies

The electronic communications landscape in Malta is currently characterized by the presence of three broadband network operators: GO, Melita and Epic.

- GO is using a combination of Fibre to the Cabinet (FTTC) and Fibre to the Home (FTTH) technologies to connect customers to its network. This network is based on Point-to-MultiPoint (PtMP) fibre topology²⁷, with the fibre link ending at each home²⁸. GO's FTTH products support download speeds of up to 1Gbps.

GO registered significant progress in its FTTH deployment, and this operator's network now covers 63.6% of all dwellings in Malta (as at end January 2023). GO's fibre network is available alongside its legacy copper DSL network. The latter network utilizes legacy copper infrastructure between the street cabinet and customer's premises. Given developments over the past years, GO's focus is evidently on expanding and upgrading its FTTH network, as well as increasing FTTH coverage. Nonetheless, GO has not announced any plans to switch off its copper network.

Additionally, GO supplies fixed telephony and internet services over fixed wireless access (FWA) technology using 4G cellular networks.

GO is the only electronic communication service provider that benefits from widespread availability of physical infrastructure. This infrastructure is critical to the telecom sector as a whole. It is particularly important in the context of the network needs of GO's main competitor, Melita, as illustrated further down in this section. The MCA notes that GO was a state-owned company at the time it constructed its duct network. It had, therefore, benefited from the conditions of being a state-owned monopoly. These conditions

²⁷ FTTH PtMP GPON connects many fibres (typically 32 – 128) at an intermediate point to a splitter, which allows the aggregation of all the different optical signals onto one fibre in the upstream direction from the splitter to the ODF (feeder fibre) and to distribute the downstream optical signal in an equal manner to all fibre links from the splitter to the end-customers connected (drop fibres). This architecture requires additional electronic control systems to separate the signals. The OLT (Optical Line Terminator) at the central sites (Local Exchanges) communicate with the ONU (Optical Network Unit) in the customer premise to manage and control the traffic and signal flows on the shared feeder fibre. Both elements of active equipment should support the same GPON family protocol. Splitters can be cascaded at different locations up to a maximum splitting factor somewhere in the field, which could start within the buildings, but they can also be located behind the ODF in the local exchanges.

²⁸ There could be instances where GO/Epic deploy fibre links to reach the customer premises (i.e. FTTB). In this case, existing copper wire infrastructure would typically be used to connect the individual homes (flats, apartments, business locations). Such deployment would create some limits on the transmission bandwidth due to copper specific constraints. The MCA is not aware of the extent that GO / Epic are / would be implementing FTTB.

cannot be readily replicated by other established operators or a new entrant in the market.

- Epic provides fixed internet and telephony services using primarily fibre technology. Since 2018, Epic has been accessing GO's FTTH infrastructure via regulated VULA to supply fixed internet and telephony services to end-users. This operator also started rolling out its own PtMP FTTH infrastructure in April 2021. Epic's FTTH products support download speeds of up to 2Gbps.

Epic's FTTH infrastructure to date only reaches four localities in Malta, namely Mosta, Birkirkara, Attard and Balzan²⁹. Also, many areas within those localities have not yet been covered. These coverage limitations will be considered in more detail when assessing competition at the retail level.

Epic also uses Fixed Wireless Access (FWA) technology to provide internet and telephony services, thus allowing for the delivery of broadband services. It is important to note that the performance of FWA will be taken into account within the ambit of the market definition, on the basis of factors such as distance from the base station, network congestion, and weather conditions.

- Melita's network reaches circa 90% of dwellings in Malta, using a combination of coaxial and fibre-optic cable to deliver internet and TV services to homes and businesses. The coaxial cable is used to transmit the signal from the street-level cabinet to the customer's home, while the fibre-optic cable connects the cabinet to the main network hub. This infrastructure allows for high-speed internet and TV services, and the use of DOCSIS 3.1 technology allows for even faster speeds and greater capacity³⁰. Currently, Melita

²⁹ These localities account for circa 12% of all dwellings in Malta, based on data as at end March 2023.

³⁰ DOCSIS (Data over cable service interface specification) only specifies the bi-directional data (and Voice) communication on a cable-TV network. It does not cover the TV-signal transmission. The cable-TV infrastructure originally was based on pure coaxial cables, which allow for the transmission of high frequency signals up to 2,5 GHz, thus offering high capacity. Not all of the capacity was required for TV-signal broadcasting, thus data channels have been added, typically framing the TV-channel frequency space. While the TV-signal broadcasting and the data downstreaming requires a unidirectional transmission from a central to end-customer sites the upstream channel requires a transmission vice versa.

All transmission on the coax-cables requires amplification/regeneration of the electrical signals at regular intervals (appr. 400m). DOCSIS typically is a hybrid technology with coaxial copper cables in the network end-segment from a so called fibre node to the end customer's TV-outlets, while fibre links connect towards the central sites with their TV-signal Headend and the Cable Modem Terminations System (CMTS). Both infrastructures (fibre and coax-cable) are used in a shared manner, and its access by the end-customers is managed by the CMTS and its counterpart – the cable modem at the TV-outlets in the customer premises.

offers connection speeds of up to 1Gbps nationwide and up to 1.2Gbps in areas covering circa 50% of dwellings in Malta³¹.

Melita's territorial coverage and provision of downstream broadband services also rely on a legacy wholesale access agreement with GO for the use of GO's duct infrastructure³². Melita is using GO's physical infrastructure, which, when measured on the basis of kilometers of ducts available to this operator (i.e. rented + own ducts), accounts for around 40% of all duct-based physical infrastructure currently managed by Melita to provide its downstream fixed services. In contrast, Epic does not have access to GO's physical infrastructure.

Melita has not to date announced any plans related to the implementation of DOCSIS 4.0³³. Meanwhile, this operator has recently undertaken a pilot FTTH project at the locality of Madliena. In view of Melita's national ultra-high speed (UHS) broadband coverage via its cable network, which already provides it with ubiquitous access to retail clients, it is not envisaged that the pilot will result in any tangible impact on this market review exercise, within the relevant timeframe.

- Vanilla Telecoms is a fringe competitor in the market that offers fixed wireless broadband services through wireless network infrastructure on the unlicensed spectrum band. However, the market presence of this operator is limited to only a few locations across the Maltese islands, and several technical constraints hinder the widespread availability of the service. This operator only accounts for a minute share of the local fixed subscriber base.
- Another form of broadband access in Malta relies on mobile technology, with three local mobile network operators (MNOs) currently in operation, that is Epic, GO and Melita. Mobile access technology provides broadband access through wireless connections to customers' mobile devices, without the need for a router connected in the home or business premises. This allows the end-user to access voice and broadband data services while on the move.

³¹ Source: <https://www.melita.com/melita-ups-internet-speed-to-1200mbps/>

³² This legacy agreement between GO and Melita originated at a time when GO was still a government-owned entity. The agreement still stands, which means that the agreement subsisted after GO's privatization in 2006. There are currently no ex ante regulatory obligations on GO to supply access to its ubiquitous duct infrastructure.

³³ DOCSIS 4.0 will enable full bidirectional transmission of 10 Gbps in a shared transmission area, thus superseding limitations related to significant asymmetry between upstream and downstream channels for DOCSIS 3.1. DOCSIS 4.0 will enable full bidirectional transmission of 10 Gbps in a shared transmission area. DOCSIS 4.0 will require further reductions in the fibre node size to around 50 end-customers, bringing this solution close to a FTTH or FTTB solution (for apartment buildings). DOCSIS 4.0 is not foreseen to be deployed in Malta within the timeframe of this review.

3.1.2 Transition from access based competition to infrastructure based competition

The telecommunications market in Malta is undergoing a significant change in the way competition operates, moving from a focus on accessing existing infrastructure to competition based on the duplication and replication of networks. This transformation has the potential to be a game-changer in the sector, opening up greater opportunities for innovative services.

Competition based on infrastructure brings with it significant challenges, such as high costs of building and maintaining infrastructure, difficulty in gaining access to existing infrastructure, and limitations in expanding service coverage. It also requires significant investments in technology to be able to offer the latest services to customers. Additionally, the lack of an established customer base makes it more difficult for Epic and any other new entrant to compete and to overcome the obstacles of expanding and maintaining their own infrastructure, negotiating favourable wholesale deals to gain access to existing infrastructure, and expanding service coverage.

In light of the challenges of infrastructure-based competition, these issues are particularly relevant for Malta at this juncture, considering Epic's move in 2021 to start rolling out its own infrastructure, in direct competition to the incumbent GO and established operator Melita. Epic's investment in own infrastructure offers the opportunity to this operator to be less reliant on regulated VULA (Virtual Unbundled Local Access). However, this transition for Epic to become a fully-fledged infrastructure-based competitor is only at its initial stage and will take several years to materialize. The MCA considers that the implications of this transition could be significant on competition dynamics in the provision of fixed broadband services in Malta:

- In case of success in infrastructure-based competition, end-users will benefit from increased choice, better services, and lower prices. They will have access to a wider range of products and services, including faster internet speeds, more reliable connections, and advanced features such as 5G and full fibre. This can lead to an improved overall quality of experience for end-users and a more dynamic market overall.
- On the other hand, in case of failure in infrastructure-based competition, end-users may suffer from reduced choice and limited competition. They may also experience higher prices and less innovation in services. Consumer harm may also occur in the form of reduced investment in network infrastructure and less incentive to upgrade networks and services, which would ultimately translate in poor quality of experience for end-users.

An additional consideration in view of the above is the role of wholesale commercial agreements, including co-investment arrangements. Long-term commercial arrangements for access and co-investment play an important role in supporting competition on a sustainable basis in countries such as Spain and Portugal. There are swap arrangements in these two countries that are "exclusive" between the parties involved and are not automatically open to new investors. Nonetheless, NRAs in Portugal and Spain have found that they make a sufficient contribution to supporting retail competition and these NRAs have concluded that there is no need to regulate wholesale local access for fibre in the areas where these

arrangements are in effect or could be expected to operate nationwide in Portugal's case and covering around one third of households in Spain.³⁴

The MCA believes that wholesale commercial agreements and/or co-investment can also be instrumental in promoting competition in Malta, especially given the challenges associated with infrastructure-based competition. These sentiments were previously expressed by the MCA in two communications released in June and December 2021³⁵, in which the Authority highlighted the potential benefits of such agreements. The MCA noted that such arrangements could assist with the ongoing deployment of fibre-to-the-home (FTTH) infrastructures, as well as the eventual roll-out of full 5G coverage in the medium term. By enabling access to current infrastructure, particularly for new market entrants, wholesale commercial arrangements can decrease costs and lower entry barriers, thereby facilitating competition between established operators and new players. The MCA also believes that wholesale commercial arrangements can help to promote a more efficient use of existing infrastructure and can also help to avoid overbuild of networks in areas where it would not be economically viable to do so. More importantly, stronger competition could then translate into better services and lower prices for end-users.

In the afore-mentioned two publications the MCA considers that if wholesale commercial arrangements can serve to effectively deliver competition in retail markets, SMP-based access regulation can also be withdrawn, taking into account the conditions set out in the European Electronic Communications Code (EECC). No wholesale commercial agreements have materialized to date. If such commercial arrangements materialize, the MCA will bring forward the market review to take these into account in line with the EECC Article 68(6).

3.2 The relevant retail product market

In view of the background provided above, the MCA will look at the evidence of demand-side substitution (functionality and price) and supply-side substitution to determine which retail products form part of the retail fixed broadband market under investigation.

The methodology is guided by the 2020 EU Commission's Recommendation and revised SMP Guidelines. The market definition is based on an analysis of the substitutability between

³⁴ See WIK-Consult (2019) Prospective competition and deregulation

https://www.ofcom.org.uk/data/assets/pdf_file/0020/145046/b-group-wik-report-annex.pdf

³⁵ The links to the reports:

- (i) June 2021 – https://www.mca.org.mt/sites/default/files/Notification%20of%20re-assessment%20by%20the%20MCA%20of%20the%20wholesale%20fixed%20broadband%20access%20market%20in%20Malta_11.06.2021.pdf;
- (ii) December 2021 - <https://www.mca.org.mt/sites/default/files/MCA%20VHC%20BB%20competition%20preliminary%20considerations.pdf>

different products and services, taking into account both product and geographic dimensions. This analysis is forward-looking in nature.

For the purposes of determining the product dimension of a relevant market, the MCA tests the substitutability of alternatives to the focal product, both on the demand-side and the supply-side, through the application of the Hypothetical Monopolist Test (the 'HMT Test'). This test serves as a measure of the retail and wholesale reaction to a '*short but significant non-transitory increase in price*' (SSNIP) in any of the products and services that are considered at this stage of the analysis. The HMT Test aims to determine the forms of direct pressure, through demand-side and supply-side substitution, that could prevent a hypothetical monopolist from implementing a 5-10% price increase for any of the products under investigation:

- Demand-side substitutability assesses consumers' ability or willingness to switch to alternative products in response to price changes of the product under investigation, determining the range of products considered mutually substitutable by retail consumers and wholesale customers.
- Supply-side substitutability evaluates whether suppliers would respond to a SSNIP by changing or expanding their production lines to offer the relevant products or services without incurring significant additional costs.

For the purposes of the current assessment, the MCA will consider retail fixed broadband supplied over an FTTx network (including fixed broadband over FTTH) as the most appropriate focal product against which an assessment of substitute products should be carried out. This when considering the emphasis of the Recommendation on the deployment of full fibre networks to homes and businesses and the statement in the EC Explanatory Note to the 2020 EC Recommendation that '*fibre networks are not only the most advanced technology but also the most cost efficient and carbon efficient solution currently available on the market. All these factors cause a shift in strategy towards fibre installation, with at least regional FttH deployment even in countries in which the incumbent's initial focus was on Fibre to the Cabinet (FttC), very high speed digital subscriber line technology (VDSL), vectoring or G.fast.*' Where alternatives are found to act as an effective substitute for the focal FTTx product, they will be included in the relevant retail product market.

Another consideration in the market definition exercise relates to the geographic dimension of the relevant market, which involves analysing the extent to which the degree of similarity of competitive conditions across the national territory. The geographic dimension of the relevant market helps to define the area where a hypothetical monopolist may be able to exercise market power, influencing the prices and availability of the relevant products and services.

3.2.1 Demand side substitution

The MCA is addressing the following aspects when carrying out the substitutability assessment for retail broadband products supplied over copper VDSL, FTTH and cable DOCSIS 3.1 technologies:

- speed, coverage and reliability;
- applicable service and payment terms; and
- price (based on monthly access fees).

The assessment will also determine whether or not mobile technologies substitute for fixed broadband and whether high-quality connectivity products (such as Ethernet-based leased lines or WDM connections) form part of the relevant market comprising any of the above.

3.2.1.1 Speed, coverage and reliability

The main aspects related to the functionality of broadband services over VDSL, FTTH, cable, and fixed wireless refer to speed, coverage and reliability.

FTTH broadband services can offer download speeds of up to 2 Gbps, while cable broadband services can offer speeds of up to 1.2 Gbps using the DOCSIS 3.1 network. In those areas where FTTH is not yet available, GO also offers fixed broadband services over legacy copper DSL technology, with the bandwidth enhanced through the deployment of VDSL (very high-speed digital subscriber line) active equipment. This technology is available to around 72% of Maltese households, and the maximum headline VDSL speed is 75Mbit/s. Meanwhile, the download speed typically available with fixed wireless broadband does not exceed 35Mbps³⁶. Additionally, fixed wireless broadband is subject to data download caps due to the inherent nature of the wireless access channel (limited spectrum bandwidth). No data download caps apply in the case of broadband products based on VDSL, FTTH and cable.

These differences in headline download speeds and the implementation of data caps are particularly important considerations for clients that seek high-bandwidth connectivity for activities such as streaming high-definition video, online gaming, and large file downloads.

Also, in contrast to fixed wireless broadband based on 4G/4.5G technology, the reliability of broadband on VDSL, FTTH, and cable DOCSIS 3.1 is not affected by the number of users in a wireless cell, the backhaul capacity and weather conditions.

It is also relevant to note that GO's FTTH coverage reaches 66.7% of all dwellings in Malta³⁷, which means that the remaining dwellings lack FTTH coverage and therefore depend on VDSL broadband from GO or cable-based broadband from Melita. Take-up for VDSL has been on a

³⁶ There are currently no services offered in Malta on fixed wireless access over 5G technology. Hence such products are not considered relevant for the current assessment.

³⁷ Data as at the end of March 2023.

downward trajectory for the past years³⁸. The shift away from copper VDSL corresponds to GO's FTTH network roll-out and the efforts by this operator to upgrade its VDSL clients to FTTH. It is of significance to note in this respect that end-users on copper VDSL broadband do not typically show any inherent tendency to switch to cable DOCSIS 3.1, as evidenced by the largely unchanged market shares of GO over time. Also, GO has to a significant extent upgraded its copper-based clients to fibre plans (where fibre has been deployed) at its own initiative, subject to a prior notification. The remaining clients of copper-based broadband in those areas not currently covered by FTTH had the opportunity to switch to Melita's plans but did not do so, notwithstanding the lower speeds achievable over copper.

In view of the above, the MCA considers that broadband services offered over VDSL, FTTH and cable are functionally equivalent from a demand-side perspective. In view of the fact that end user demand for broadband over VDSL appears to be in persistent decline, the MCA acknowledges that substitution between VDSL and FTTH is asymmetric, i.e. happening in one direction away from copper to FTTH. Nonetheless, the MCA deems that VDSL broadband could still be considered as equivalent from a demand-side perspective to broadband over FTTH and cable DOCSIS 3.1.

3.2.1.2 Service and contractual terms

The broadband product portfolios over VDSL, FTTH and cable are available to both residential and business users, with comparable service features and similar contractual terms.

When it comes to service characteristics, the download and upload speeds for residential and business users are largely similar. Other product features are also common for all users. There are additional features available to business users, such as multiple email addresses and web hosting facilities, but these may be added by these users on an opt-in basis.

On contractual terms, service and payment terms are very similar. For example, monthly access fees are lower for all users if their subscription is on a two-year contract agreement and payments made via direct debit. Other common service and / or contractual conditions are listed hereunder:

- Residential and business users could either opt to purchase a fixed broadband product – stand-alone or in a bundle - for a 24-month contract term agreement or on month-on-month payment conditions. Monthly access fees would typically be cheaper in case of purchases on a contract.

³⁸ Given the ongoing FTTH roll-out by GO and the continued efforts by this operator to switch its clients to FTTH, the number of copper VDSL subscriptions declined from 64,384 at the end of December 2019 to 43,583 by the end of December 2022. This means that the share of the fixed broadband subscriber base for copper VDSL was down from 31.8% at the end of 2019 to 19.0% at the end of 2022.

GO does not use vectoring in Malta, a technology that helps to increase the capacity and speed of copper-based broadband services.

- Prices for the different copper VDSL, fibre and cable broadband products vary according to download speed, with monthly access fees being higher for products featuring the highest download speeds. This happens irrespectively of the fixed broadband product being purchased stand-alone (only in a few instances are such products available, as fixed telephony is typically included with the fixed broadband plan) or in a bundle.
- Lower speed products are typically offered as a stand-alone plan and high-speed products in a bundle. However, there is effectively nothing to stop providers from offering high-speed broadband on a stand-alone basis. This has more to do with the commercial decisions of operators.
- One-time connection fees, installation fees and modem fees are generally waived when fixed broadband products are purchased on a contract term agreement and / or in a bundle subscription.

The payment terms for fixed broadband products offered over wireless technology are largely the same as in the case of the wired fixed broadband options. For example, cheaper monthly access fees would apply when the purchase is bound by a contract. However, the fact that these fees apply alongside the implementation of a data cap means that fixed wireless broadband products are subject to a two-tiered pricing approach, whereby the price is associated with a data cap and the service is subject to potential suspension once this data cap is fully consumed. No data cap applies in the case of VDSL copper, fibre and cable broadband products.

Therefore, the MCA considers that payment and service terms for copper VDSL, FTTH and cable broadband products are similar, with these products therefore substitutable on the basis of these terms. On the other hand, the payment and service terms for fixed wireless broadband products are different from those applying in the case of VDSL copper, fibre and cable broadband products and therefore cannot be considered as substitutable on this basis.

3.2.1.3 Payment terms

This section seeks to assess substitution between copper VDSL, cable and FTTH broadband products based on price (typically referred to as the monthly access fee). Broadband products supplied over fixed wireless technologies are not considered in this section given the two-tiered pricing mechanism that applies for these products.

Residential users

Monthly access fees are charged incrementally, with the highest fees applying in the case of those fixed broadband products supporting the fastest download speeds. The table below shows that most prices are close enough to each other such that a 10% increase to one of them could theoretically lead to the end-user switching to other fixed broadband products, either from its direct competitors or from the same operator and possibly to products on higher download speeds.

Residential 24-month subscription Download / Upload	Technology	GO	Melita	Epic
30Mbps / 15Mbps	Cable DOCSIS 3.1	Not applicable	€20.49	Not applicable
75Mbps / 15Mbps + Fixed telephony + TV	Copper VDSL	€26.00	Not applicable	Not applicable
100Mbps / 15Mbps + Fixed Telephony + TV	Fibre	€26.00	Not applicable	€26.99 Based on regulated VLA / No TV
150Mbps / 15Mbps + Fixed Telephony + TV	Cable DOCSIS 3.1	Not applicable	€26.00	Not applicable
300Mbps / 30Mbps + Fixed Telephony + TV	Cable DOCSIS 3.1	Not applicable	€28.50	Not applicable
500Mbps / 50Mbps + Fixed Telephony + TV	Fibre / Cable DOCSIS 3.1	€31.00	€33.49	€31.99 Based on regulated VULA / No TV
1000Mbps / 60Mbps + Fixed Telephony + TV	Fibre	€40.99 (first 6 months @ €26)	€40.49 (first 6 months €25.49)	€41.99 Based on regulated VULA / No TV
1200Mbps / 100Mbps + Fixed Telephony + TV	Cable DOCSIS 3.1	Not applicable	€50.49	Not applicable
2000Mbps / 100Mbps + Fixed Telephony	Fibre	Not applicable	Not applicable	€26.99 Based on own network First 6 months subscription free

Table 1: Monthly access fees for residential fixed broadband products on a 24-month subscription, as at the end of February 2023³⁹

The monthly access fees outlined in Table 1 indicate that most retail broadband products follow a chain of substitution dynamic, irrespective of these being offered on a stand-alone

³⁹ The quoted monthly access fees relate to the introductory plan, with operators allowing end-users to opt for several add-ons, such as enhanced TV, when purchased in a bundle alongside fixed broadband. In such case, the monthly access fee would increase accordingly.

Most of the plans listed in the table are also available on month-on-month basis (i.e. with no contract), but monthly access fees would be higher in that case. Operators also offer minor discounts on all fixed broadband plans where the end-user chooses to pay via Direct Debit Mandate (DDM). In the case of GO, a €1.00 DDM discount applies, whilst in the case of Melita and Epic a DDM discount of €0.50 and €2.00 applies respectively. These discounts also apply for business users, in Epic's case being different at €1.50.

basis or in a bundle. The current price range makes it possible for the end-user to switch from one provider to another or one product to another in the event of a SSNIP⁴⁰. This also when considering that end-users can purchase the same products highlighted in Table 1 on a month-on-month basis, whereby the monthly access fees would be higher than those quoted in the table.

This ‘chain-of-substitution’ pricing dynamic observed for residential broadband plans extends to the fixed broadband product portfolio for business users. This is because the starting price for business users currently stands at around €41, which is well within the price range for residential broadband plans. Meanwhile other business product prices on a 24-month contract would in various instances be cheaper than would be the case for residential plans on a month-on-month subscription. This holds true even in the case of bundle plans.

Business 24-month subscription Download / Upload	Technology	GO	Melita	Epic
35Mbps / 5Mbps + Fixed telephony	Copper VDSL	€70.00	Not applicable	Not applicable
75Mbps / 15Mbps + Fixed telephony + TV	Copper VDSL	€41.30	Not applicable	Not applicable
100Mbps / 15Mbps + Fixed Telephony + TV	Fibre	€41.30	Not applicable	€43.06 Based on regulated VULA / No TV
250Mbps / 15Mbps + Fixed telephony	Cable DOCSIS 3.1	Not applicable	€41.29	Not applicable
250Mbps / 15Mbps + Fixed telephony	Cable DOCSIS 3.1	Not applicable	€47.19	Not applicable
500Mbps / 50Mbps + Fixed Telephony + TV	Fibre	€59.00	Not applicable	€60.76 Based on regulated VULA / No TV
500Mbps / 20Mbps + Fixed Telephony	Cable DOCSIS 3.1	Not applicable	€53.09	Not applicable
1000Mbps / 50Mbps + Fixed Telephony + TV	Cable DOCSIS 3.1	Not applicable	€64.89 No TV	Not applicable

⁴⁰ The MCA considers it relevant to underline that consumer perceptions surveys on fixed broadband have consistently shown that end-users may have the opportunity to switch but that they ultimately do not as they deem the services offered by GO and Melita as similar.

1000Mbps / 100Mbps + Fixed Telephony + TV	Cable DOCSIS 3.1 / Fibre	€143.75	€147.49 No TV	€149.26 Based on regulated VULA / No TV
2000Mbps / 100Mbps + Fixed Telephony	Fibre	Not applicable	Not applicable	€37.15 First 6 months of subscription free

Table 2: Monthly access fees for business fixed broadband products on a 24-month subscription, as at the end of February 2023⁴¹

Given the above, the MCA considers that fixed broadband products supplied over copper VDSL, FTTH and cable are substitutable to each other on the basis of price, with the relevant prices for these products falling within the same chain of substitution dynamic. This substitution dynamic holds irrespective of the contract terms of the fixed broadband product on offer (i.e. stand-alone or in a bundle; in a contract or month-on-month) and irrespective of the type of client (residential or business). On the other hand, the two-tiered price mechanism applicable in the case of fixed broadband products supplied over fixed wireless technology essentially limits the substitutability of such products to those supplied over copper VDSL, fibre and cable.

3.2.1.4 Substitutability of broadband services offered over mobile technology

The main focus for Gigabit broadband is on fixed wired technologies. Nonetheless, the capabilities of mobile networks are increasing and it is relevant to consider the extent to which these meet high speed and Gigabit requirements. To this effect, the MCA has examined the substitutability of broadband offered over mobile technologies for broadband supplied over fixed technologies.

It is relevant to underline that 4G and 4.5G coverage is nationwide in Malta, with indications that the maximum download speed could theoretically reach up to 200 Mbps. The mobile 5G service has also been launched⁴². However, there could be factors that limit the actual speeds that are attained / achieved by the end-user:

- Mobile networks are characterised by the use of antennas which serve customers within a radius around them. Customers within this circle all share the antennas’ transmission capacity. Such antenna locations may host antennas for several frequency ranges,

⁴¹ The quoted monthly access fees relate to the introductory plan. Some plans are available on a month-on-month basis (i.e. with no contract), but monthly access fees would be higher in that case. Operators also offer minor discounts on all fixed broadband plans where the end-user chooses to pay via Direct Debit Mandate (DDM).

⁴² Malta is served by three 5G mobile networks. Melita has a nationwide 5G mobile network. Epic and GO plan to have nationwide 5G mobile coverage by the end of 2023, in line with their licence obligations. GO and Epic also provide fixed wireless broadband access services over their 4G (LTE) network.

technologies and even operators. In general, the size of the area covered by an antenna is determined by the frequency used and its propagation and wall penetration characteristics. The longer the wavelength and the lower the frequency the longer the propagation range and the wall penetration, but the poorer the transmission capacity. All end customers in an area covered by the same antenna compete for the capacity provided by this antenna. In this regard, the antenna's capacity is a shared medium, with a controller which grants the access rights⁴³.

- The main advantage of the mobile radio network is its support of mobility and its potential to reach sparsely populated areas, possibly not viably served by fixed access connections. However, radio transmission is by its nature affected not only by dense materials like walls, hills or mountains, or even trees or forests, but also by sources of electromagnetic interference, such as lightning, and by rain and all of which can disrupt the line-of-sight contact between receiver and antenna. As it has especially weak propagation characteristics, frequency use in the > 3 GHz range will require increased cell numbers, as well as outdoor antennas and repeaters to ensure good and reliable indoor coverage.

In Malta, the high density of buildings can lead to a decrease in mobile broadband speeds when a large number of users are accessing the same tower. Additionally, when demand for mobile internet service increases, it can put pressure on the available capacity, resulting in speeds that are less than the theoretical maximum. This may explain why to prevent this, local mobile network operators have introduced plans with unlimited data at lower speeds as an entry-level option.

Furthermore, the Gigabit fixed broadband plans highlighted above are typically offered in bundle plans including the TV service and a fixed telephony service. Given that the Gigabit fixed broadband service is typically bundled with TV and fixed telephony, the 5G mobile broadband service can hardly be considered as a direct substitute. Also, taking into account a mobile penetration rate of 130% and that fixed broadband is taken up by 95% of households in Malta⁴⁴, it is safe to assume that virtually everyone in Malta has access to fixed broadband and uses mobile broadband services. Trends in fixed and mobile take-up do not indicate 'cord-cutting'. Meanwhile, usage of 5G mobile broadband remains low suggesting that consumers are satisfied to use their fixed connections for bandwidth-hungry applications.

It is also relevant to note that, in densely populated areas such as Malta, high capacity is required in small cells at higher frequencies, to serve all end-customers with at least one high

⁴³ Parallel deployment and MIMO antenna arrays (the use of multiple antennas at the transmitter and receiver) can increase this capacity, but the peak capacity of a mobile radio cell must still be shared among the users who intend to communicate at the same time. High capacity antennas such as those used for 4G and 5G require high capacity feeder networks, typically provided by fibre links. Modern antenna control solutions such as C-RAN and edge cloud solutions require even more fibre links between controllers and antenna locations.

⁴⁴ Link to findings concerning the MCA Consumer Survey Perceptions Survey for fixed broadband carried out in 2022: <https://www.mca.org.mt/sites/default/files/MCA%20CPS%20-%20FIXED%20BROADBAND%20-%20PRES.pdf>

performant mobile network, while also ensuring indoor coverage. Thus, the fibre density required for mobile in a 5G context could in the medium term become comparable to an FTTH network. This inter-reliance between fixed and mobile means that in practice there is unlikely to be supply-side substitution between fixed and mobile technologies.

The MCA therefore concludes that broadband services supplied over mobile technologies, including those based on 5G, are not technically substitutable with fixed broadband services supplied over VDSL, FTTH and cable DOCSIS 3.1. Mobile access technologies rather themselves depend on VHC infrastructure to support enhanced broadband speeds and quality. Moreover, the shared nature of the mobile access infrastructure and associated capacity and reliability constraints means no full substitution between 5G mobile technologies and fixed broadband technologies such as VDSL, DOCSIS 3.1 and FTTH. Purchasing patterns also demonstrate complementarity, with consumers generally purchasing both fixed broadband and mobile services, despite the fact that they are not typically bundled together. Therefore, broadband supplied over mobile access technologies does not substitute fixed broadband.

3.2.1.5 Substitutability of high quality connectivity and mass market connectivity

The MCA notes that not all businesses resort to standard fixed broadband, or what could be referred to as mass market connectivity. There are a number of entities, mainly medium-sized and large corporations owned by private investors or the government, that purchase tailor-made packages of fixed broadband featuring higher bandwidth capabilities (symmetric bandwidth) and quality of service, alongside service provision guarantees covered by what are referred to as Service Level Agreements (SLAs). Hence the term high-quality business connectivity, which encompasses connectivity services supplied over Traditional Interface leased lines, Ethernet-based leased lines and Wavelength Digital Multiplexing (WDM) solutions and Business-to-Business connectivity with specific service characteristics (such as symmetric data rates and very low contention).

Other than functionality and service characteristics, these high-quality connectivity products are also priced differently than is the case with mass-market broadband. In fact, high-quality connectivity products are more expensively priced than the standard fixed broadband plans. For example, the monthly access fee charged for a 10Mbps Ethernet connection would start at €285 on average. Such a price would fall outside the 'chain of substitutability' pricing dynamic highlighted above.

Given the above, the MCA considers that high-quality business connectivity is not technically substitutable with mass-market broadband supplied over copper VDSL, FTTx and DOCSIS 3.1 networks.

3.2.1.6 Conclusion on demand side substitutability assessment

The MCA considers that, from a demand-side perspective, broadband services supplied over copper VDSL, cable DOCSIS 3.1 and FTTx are substitutable in terms of functionality and

price. Service and contractual characteristics are similar and it is also possible for end-users to switch between these broadband products in response to a SSNIP implemented by a hypothetical monopolist, given the observed chain of price substitution dynamic. Specifically for copper VDSL broadband products, the MCA considers that substitution is likely to happen in one direction, away from copper VDSL to FTTH and cable and not the other way round. This when considering that demand is gradually but consistently shifting to high-speed broadband data rates.

The MCA also notes that broadband supplied over fixed wireless access technologies and mobile access technologies does not act as a direct constraint on broadband supplied over copper VDSL, FTTH and cable networks. Also, high-quality business connectivity is not directly substitutable with mass-market connectivity, comprising fixed broadband supplied over copper VDSL, FTTH and cable DOCSIS 3.1.

3.2.2 Supply side substitution

The MCA considers the potential for new entry if a hypothetical monopolist implements a SSNIP for its fixed broadband FTTH product. Under this analysis of supply-side substitution, the MCA has examined whether an undertaking may consider the possibility to be active in the retail market for the provision of FTTH, thus supplying the focal product in the short term, without incurring significant sunk costs. In order for supply-side substitution to be effective, new market entry should render a hypothetical price increase unprofitable for the hypothetical monopolist. The MCA notes that market entry based on the deployment of own network infrastructure would however entail significant sunk costs and would take a long time to materialize.

This is evidenced by the fact that new entry in the provision of FTTH has to date materialized on a limited scale and is not expected to expand significantly in the short to medium term.

The potential for supply-side substitution is therefore not a relevant consideration in the current assessment.

3.2.3 Geographic definition

The geographic definition should identify areas where competition conditions are similar and distinguish them from neighbouring areas where conditions are different. This should be done with consideration as to whether a potential operator with significant market power acts uniformly across its network area or if it faces different conditions of competition that constrain its activities in some areas but not others.

Taking into account the above, the 2020 EC Recommendation states that NRAs need to *'base their assessment of the geographic scope of a relevant market on a consistent set of parameters'* and that *'the tools for geographic analysis are based on the principles of competition law...include analyses of demand and supply-side substitutability'*. The 2020 EC Recommendation adds that NRAs should define relevant geographic markets within their

territory by taking into account, inter alia, '(a) the number of competing networks, (b) their distribution of market shares, (c) a preliminary analysis of pricing and price differences at regional level and (d) behavioural patterns'. The extent of geographic analysis at the wholesale level would also depend on the extent of competitive differences found at retail level (based on the number of competing operators, prices and marketing strategies amongst others depending on the circumstances).

In Malta, GO provides retail fixed broadband services nationwide via its copper and fibre networks, with almost 67% coverage for FTTH. Melita's cable DOCSIS 3.1 broadband service is widely available, covering 90% of the national territory. Meanwhile, Epic's geographic presence is limited to FTTH areas in Attard, Balzan, Birkirkara and Mosta. These localities accounted for 41,552 dwellings by the end of March 2023⁴⁵, i.e. 11.7% of all dwellings in Malta. More specifically, however, Epic's FTTH coverage reaches 49.5% of all dwellings at the localities where it started FTTH roll-out. Epic's current national reach (in terms of dwellings passed) stands at 5.8% of all dwellings in Malta.

The MCA notes that the scope of three-player competitive zones - based on deployment of own infrastructures - is currently very limited, while the boundaries of these zones are not expected to change beyond a certain extent within the timeframe of this review. The prospects for future expansion of the three-player competitive zone have been set by Epic's target of covering 25% of dwellings in Malta by its FTTH network⁴⁶. The MCA also notes that a national pricing constraint still applies, as all three operators implement national prices. In fact, GO and Melita are not implementing different prices in those localities where Epic started deploying its own FTTH infrastructure. Absent regulation, and therefore assuming a greenfield scenario without VULA regulation, the degree of competition is set to remain subject to national pricing constraints.

Therefore, the MCA concludes that the current conditions of competition in the retail market for the provision of fixed broadband on copper VDSL, FTTH and cable are deemed to be geographically homogenous and are likely to remain so within the timeframe of this review. The MCA is of the opinion that the relevant market is subject to a national pricing constraint, as all authorized network operators offer fixed broadband services at the same prices regardless of the geographic location of the client.

⁴⁵ This figure is based on data supplied by GO. GO's data also shows a total of 355,697 dwellings in Malta by the end of March 2023.

⁴⁶ The Digital Economy and Society Index (DESI) 2022 report for Malta states that '*Epic (previously Vodafone Malta) launched a EUR 43.2 m project supported by a EUR 20 m loan from the European Investment Bank, with the aim of covering 70% of households with 5G services and 25% of households with fibre by 2024*'. Link: <https://digital-strategy.ec.europa.eu/en/policies/desi-malta>

3.2.4 Proposed retail market

The MCA concludes that the retail product market under investigation encompasses the following:

- fixed broadband supplied over GO's copper VDSL network;
- fixed broadband supplied over GO's and Epic's FTTH networks; and
- fixed broadband supplied over Melita's HFC DOCSIS 3.1 network.

The relevant product market consists of mass market broadband irrespective of the type of contract (two-year contract vs month-on-month / bundle vs stand-alone) and irrespective of the type of client (business vs residential).

Broadband supplied over fixed wireless access technologies and over mobile access technologies is not deemed part of the relevant product market. High-quality connectivity services are also excluded from the relevant market.

The relevant retail market is national in scope.

3.3 Retail competition dynamics

The MCA takes a holistic approach when evaluating the fixed broadband market in Malta, by considering the provision of services to both residential and business customers and on the basis of different plans.

The primary focus of the MCA is the competitive evolution of the retail market for fixed broadband connectivity. The MCA monitors market developments on an ongoing basis and gathers data regularly from authorized operators in Malta. Based on this data and market developments, the MCA then carries out its analyses based on a forward-looking assessment of the market, taking into account expected or foreseeable developments that may affect competition in the market under investigation. The analysis starts at retail level in order to identify shortcomings in competition that would necessitate intervention in wholesale product markets, ultimately with the intention of promoting competition in downstream (retail) markets.

The current analysis follows another one carried out in 2020 and published for consultation in May of that same year. The MCA's 2020 consultation on the fixed broadband markets proposed a regulatory approach based on a thesis of joint SMP between GO and Melita, based also on retail market manifestations at the time. The MCA identified several retail competition shortcomings in a duopolistic market setting that was effectively characterized by the presence of just two players with own infrastructures (GO and Melita) and a third player (Epic) whose presence was fully dependent on the regulated VULA offer. The MCA outlined that the duopolistic market was characterized by high and relatively stable market shares for Melita and GO. The MCA also noted the potential harm to consumers that could result from the loss of Epic as a potential third operator in the absence of wholesale regulation.

However, after the consultation closed in July 2020, Epic announced plans to invest in a pilot project for the deployment of FTTH infrastructure, which it started rolling out in April 2021. Shortly after, Epic advertised FTTH-based commercial offers, thus prompting the MCA to re-evaluate its position and subsequently withdraw the 2020 consultation in order to be able to re-assess the evolving situation on the ground and the relevant implications.

The MCA believes that a new examination is necessary in light of the potential for a new scenario which could influence the dynamics of competition in retail markets. Specifically, the market is on the brink of a shift from a scenario where competition beyond the existing incumbent and cable operators relies on service competition to one that involves infrastructure-based competition at least in a part of the territory. This has also shifted the focus from identifying regulatory solutions at the wholesale level that could support service-based competition, to one with a greater emphasis on facilitating infrastructure-based competition with a view to achieving more sustainable competition at the retail level.

The MCA notes that the potential for infrastructure-based competition in a three-player market scenario is envisaged, on the basis of Epic's declared estimates, to reach 25% of Malta's households by 2024 (as already highlighted in sub-section 3.2.3). To date, Epic's FTTH footprint reaches 5.8% of all dwellings in Malta.

The current analysis will therefore consider the extent to which the emergent market dynamics will translate into better competition outcomes, in terms of market structure and consumer welfare (considering factors such as choice, quality of service and price).

3.3.1 Payment terms and price

Payment terms and pricing considerations are important factors when it comes to how competition is evolving in the telecommunications market. They can be used to attract and retain customers by offering more competitive prices and flexible payment options.

Local fixed broadband plans are typically offered with two main contract options, as customers can opt for a 24-month contract or choose a month-to-month plan. Monthly access fees tend to be more favourable with a contract or bundle purchase and prices vary depending on the download speed. Operators usually offer lower-speed broadband as a standalone option while high-speed plans are bundled with other services. Additionally, a contract or bundle purchase often waives one-time fees. This has been a standard approach for operators prior to Epic's deployment of FTTH technology and still essentially remains intact, even with the advent of Epic's commercial FTTH offers.

Epic did however contribute to the evolution of the market, as this operator introduced some changes that were eventually replicated in some form or other by existing players like Melita and GO. The main change relates to the introduction of a 6-month free-offer period when it comes to the purchase of fixed broadband in a 2-year contract agreement, which is a departure from the traditional 24-month contract model.

After Epic introduced its 6-month free offer period for fixed broadband in a 2-year contract, Melita and GO followed suit by introducing similar promotions. Melita offered discounted monthly access fees for a limited time-period and reduced the monthly access fee for its dual-play offer. GO also started offering the first TV connection for free when customers purchased a bundle of fixed broadband and telephony, which could be interpreted as a lower entry-level monthly access fee. Additionally, Epic's 2000Mbps dual play offer (including fixed telephony) is priced at €24.99 per month, which is similar to the pricing of GO's 100Mbps dual play plan and Melita's 150Mbps dual play plan. Furthermore, Melita's 1000Mbps triple play offer, which includes fixed telephony and TV, has a monthly access fee of €42.49, but this fee is reduced to €25.49 for the first six months of subscription. On the other hand, GO's 1000Mbps triple play offer, which includes telephony and TV, has a monthly access fee of €40.99 and a discounted fee of €26 for the first six months of subscription⁴⁷.

Despite the above, Epic has not yet had a significant impact on the market. Of significance to underline is that, excluding subscriptions based on FWA technology, Epic would account for 1.5% of the local relevant fixed broadband subscriber base⁴⁸.

Entry-level residential plans with direct debit mandate + 2-year contract	GO		Melita		Epic	
	July 2021	February 2023	July 2021	February 2023	February 2023	
Stand-alone	Not offered		Not offered		Not offered	
Dual play with fixed telephony	€25 100Mbps in FTTH areas	€25 100Mbps in FTTH areas (with TV – see below)	€35 100Mbps	€25.50 150Mbps (with TV see below)	€24.99 100Mbps in FTTH areas (VULA-based)	€24.99 2000Mbps At Mosta, Balzan, Birkirkara and Attard (own network) First six months free
Triple play (incl. TV) with 100Mbps	€30 100Mbps in FTTH areas	€25 First TV stream is available for	€32.99 250Mbps download	€25.50 First TV stream is available for	Not available	

⁴⁷ The scenario is very similar in the case of business plans, with no material changes recorded.

⁴⁸ The number of fixed broadband subscriptions excluding those based on FWA technologies totalled 212,321 by the end of December 2022. The number of subscriptions by operator are as follows: (i) Melita at 109,995; (ii) GO at 55,569 for fibre and 43,583 for copper VDSL; and (iii) Epic at 3,174 for fibre.

		free on dual play		free on dual play	
--	--	-------------------	--	-------------------	--

Table 3: Monthly access fees for entry-level residential plans on a 2-year contract, as at end of February 2023⁴⁹

Some additional considerations relating to the price strategies and the evolution of prices are highlighted hereunder:

- Epic's deployment of fibre-to-the-home technology plays a crucial role in consolidating increased competition and driving down prices. However, it may be challenging for Epic to compete solely on price, as GO and Melita may use short-term price reductions to deter Epic's potential investments.
- If Epic's deployment does not expand according to plan or stalls, other operators may even consider raising prices again as the potential loss of market share in the limited Epic zones may be outweighed by maintaining higher revenues outside of those areas. Ultimately, market penetration is vital for Epic's financial viability of deploying FTTH and expanding its network footprint (at least to the scale stipulated by this operator).
- Epic's current pricing strategy has not as yet translated into stronger price competition. This is clearly evident by the way the Average Revenue Per User (ARPU) has evolved for established operators over the past months⁵⁰. There are two key considerations to outline in this respect:
 - i. An important factor to consider is the impact of Epic on its competitors' average revenue per user (ARPU) through its free broadband promotion. In the Maltese market, bundle subscriptions represent circa 90% of all subscriptions, making bundle ARPU figures a good indicator. Operators' data shows that Epic's ARPU is notably lower than GO and Melita's. Epic's pricing strategy did not attract a significant number of subscribers, and hardly dented the ARPU of competitors. In fact, Melita and GO experienced a continuous increase in their ARPUs.

⁴⁹ Monthly access fees quoted in the table apply in case of residential end-users opting for Direct Debit payment. In case end-users do not opt for DDM the relevant monthly access fees would be as follows: (i) GO at €26.00; (ii) Melita at €26.50; and (iii) Epic at €26.99.

⁵⁰ ARPU is a metric that measures the average revenue generated per user per period of time. In the telecommunications sector, ARPU is a key metric that measures the success of a company's pricing strategy and its ability to monetize its customer base.

ARPU per bundle user	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
GO	€ 118.45	€ 120.90	€ 123.21	€ 123.53	€ 126.25	€ 126.70	€126.01	€123.55
Melita	€ 95.84	€ 96.66	€ 97.08	€ 97.39	€ 97.96	€ 96.06	€ 98.99	€98.87
Epic	€ -	€ 27.78	€ 14.96	€ 21.34	€ 17.74	€ 7.64	€ 7.01	€13.53

Table 4: Average revenue per bundle user, excluding revenues related to fixed wireless subscriptions⁵¹

Epic's pricing strategy, which focuses on offering the broadband service for free in the first six months of a 2-year subscription, has led to lower revenues for the operator, but has not had a significant impact on its competitors' ARPUs nor did it prompt a significant number of end-users to switch providers. This suggests that in order for Epic to increase its ARPU over time, it must continue to expand its network footprint and gain more customers, possibly via the launch of new fixed services. Epic's recent launch of the TV service in a bundle with fixed broadband and telephony may be seen as part of this operator's efforts to address consumers' preferences for the types of bundled offers that are offered by the incumbent and cable operator. This is a crucial aspect for the financial viability of deploying FTTH and for Epic to remain competitive in the market. It is important for Epic to find a sustainable strategy that allows it to generate a return on its investments and continue expanding its network to maintain competition on the basis of lower prices.

- International benchmarking is an important tool in evaluating price competition developments, as it provides a comparative analysis of pricing strategies and levels of similar broadband services across other countries. By comparing local prices to those in other markets, one can determine whether the pricing strategy of local operators, including Epic, is competitive or if there is room for improvement. Additionally, comparing prices in Malta to those at the EU level can provide insight into the level of price competition in the retail fixed broadband market in Malta. To this end, the MCA is hereby referring to a comprehensive study published in July 2022, entitled "Mobile and Fixed Broadband Prices in Europe in 2021,"⁵² which was conducted on behalf of the European Commission DG Communications Networks, Content & Technology.
- This study provides a mixed picture of how prices are evolving in Malta. The study states that Malta, along with Luxembourg, '*despite having the majority of offers in the relatively expensive and expensive clusters, provide consumers with relatively inexpensive Double and Triple Play bundles for the top speed category 200+ Mbps*'.

⁵¹ GO's ARPU figures take into account revenues and subscriptions for both the copper VDSL and FTTH platforms.

⁵² Link to EU Commission report: <https://digital-strategy.ec.europa.eu/en/library/mobile-and-fixed-broadband-prices-europe-2021>

- The study does identify Malta with prices for household broadband baskets that are *'slightly higher than the EU average'* but adds that *'prices are below the EU27 average when it comes to Triple Play with fixed telephony and mobile component (2 GB & 100 calls) in the 30 – 100 Mbps speed category'*.
- Overall, the study shows an improvement in prices applied in Malta compared to those in an earlier study conducted in 2020. However, on various instances, the study measures Malta's performance in this area by taking into account prices charged by Epic. Although this is a limitation when interpreting the outcomes, it does suggest that Epic has the potential to disrupt the market and bring prices down, making Malta effectively competitive at the EU level. However, Epic's own FTTH offers are not yet widely available and the operator's nationwide presence is still largely dependent on the regulated VULA.

Overall, the MCA considers that it is currently too soon to predict future developments in this field and that price competition as seen currently may not be stable, in particular if wholesale access that supports the competitors' offer in the majority of the country were withdrawn. The MCA also considers that it may be challenging for the new entrant Epic to sustain its current price levels, in view of its investments in launching TV and the need to secure the profitable operation of its fixed network.

3.3.2 Quality of service

The MCA has observed improvements in the quality of service over the past years, such as more flexible bundle options and faster data speeds. These improvements were taking place before Epic launched its fibre-to-the-home (FTTH) commercial services.

Faster download and upload speeds for users is one key example of how the quality of service has improved. Faster internet speeds allow for a better user experience, as users are able to download and upload data more quickly. Additionally, faster speeds can enable more advanced and data-intensive applications, such as high-definition video streaming, online gaming, and teleconferencing. Ultimately, as operators offer faster speeds, the price per Mbps goes down as the cost of delivering the service is spread out over more data.

However, while this metric is important, it should not distract from monitoring other factors such as the monthly access fee and overall service quality. The data presented in Table 2, for example, shows a mostly unchanged trend in actual prices over the past months. Therefore, it is important to consider whether end-users view the speed improvements as justification for the current access fees and if they find these fees to be reasonable or affordable.

According to the latest Consumer Perceptions Survey for fixed broadband service conducted by the MCA, the primary factor that influences end-user choices is "download speed", followed by "price", "upload speed", and "availability in a bundle". It is noteworthy that 56% of those who conducted speed tests found that the actual speeds were lower than what was advertised, an increase from 52% in 2019. Additionally, 40% of those who are aware of the monthly cost

for fixed broadband service consider their monthly expenditure to be expensive or very expensive⁵³.

All this together indicates that a significant portion of end-users are not satisfied with the speed of service they are getting for the money they are paying, thus putting into question the reasoning that speed improvements justify current access fees. Further to the above, the focus on bundled products and limited stand-alone options leaves room for a disruptor like Epic to bring more choice and better services to customers through more stand-alone products and services, more flexible bundle options, transparent pricing, and improved customer service.

The MCA believes that a market disruptor can bring positive changes to the market by introducing new ideas and innovation. This can benefit consumers by offering more choices and better services, as well as operating with a new business model. Furthermore, a disruptor may have a more customer-focused approach, such as providing more transparent pricing, more flexible plans, and better customer service. This can lead to increased competition and potentially lower prices. As an example, Epic has introduced a plan with faster internet speeds than other operators, which could further intensify competition based on speed. As a result, competitors may need to focus more on quality of service to stand out in the market. Nonetheless, this outcome depends on Epic investing further in expanding its coverage and having the potential to attract more customers from competitors so that competition intensifies when it comes to quality of service. Such investment could only be carried out over a number of years, is likely to be sustainable only if this operator can lower its cost of deployment by accessing existing physical infrastructure and build on its existing VULA-based customer-base in order to have the necessary scale to support its investment and transfer customers onto its own network. Moreover, even if Epic can support further network expansion without regulated inputs, in the absence of any wholesale regulation, Epic would lack the ability to offer broadband services beyond its own footprint which is targeted at 25% households, meaning that three-player based competition would be limited to the areas comprising this footprint.

3.4 Key takeaways from retail market manifestations

Given the above, the MCA considers that, absent wholesale regulation, the existing competitive dynamics in the market under investigation may not be durable and may not continue in the future. Such wholesale regulation is deemed essential in order to sustain and improve the capability for Epic to invest, mainly for the following reasons:

- End-users currently have a choice between three providers on the retail market. However, such choice exhibits limitations in various respects. For example, only a few standalone products are available and there are no options for Gigabit download speeds in the product category. Meanwhile, high bandwidth offers as well as Gigabit offers are

⁵³ Link to MCA Consumer Perceptions Survey for fixed broadband:

<https://www.mca.org.mt/sites/default/files/MCA%20CPS%20-%20FIXED%20BROADBAND%20-%20PRES.pdf>

made in a bundle set-up, making it difficult for Epic to compete directly in this segment of the market, considering the low propensity for end-users to switch as determined by responses to perception surveys carried out regularly by the MCA. In fact, notwithstanding the launch of own FTTH infrastructure, Epic has not managed to build market share to a significant scale. This operator's market share, based on own FTTH infrastructure and excluding wireless subscriptions, was equivalent to 0.6% of the total number of clients making use of copper VDSL, fibre and cable DOCSIS 3.1 technologies as at the end of 2022.

- The competition, in the majority of the national territory outside of the Epic built-up network zone, is heavily dependent on Epic having regulated access to VULA and Melita having historically been granted access to GO's duct infrastructure. For example, Epic relies on regulated VULA to access the majority of potential customers: VULA offer accounts for 65.9% of Epic's fiber-based client base. This dependence, combined with the small overall market size for Epic, raises doubts about the long-term viability of Epic's business model and its ability to expand fibre deployment without access to physical or virtual network elements. Without access to regulated physical infrastructure, its cost of deployment would likely be higher (and thus its viable footprint for FTTH deployment smaller), and without access to VULA, Epic's market share and financial prospects may decrease further, undermining the business case for deployment, which depends on achieving a critical market share.
- Based on an assessment of the viability of parallel deployment, In the absence of wholesale regulation, it is unlikely that all regions in Malta could be served by three broadband providers even under ideal conditions⁵⁴.
- The lack of commercial offers for VULA and physical infrastructure access signal that the market is characterised by refusal to supply and would be unlikely to support effective retail competition in the absence of SMP wholesale regulation.

Given the analysis presented above, the MCA concludes that while there are positive developments regarding competition at retail level, the market would not tend towards effective competition in the absence of wholesale regulation.

While there are currently three providers on the retail market, the choice available to consumers remains limited in several respects and there are reasons to believe that the current state competition may not be sustainable in the long term. The MCA notes that the market position of the entrant Epic is risky, with a low retail market share and heavy reliance on regulated access to virtual unbundled local access (VULA) to build market share. The MCA also highlights the high prevalence of bundle plans in the market and the difficulties that this presents for new entrants.

Given these considerations, the MCA concludes that sustained competition is essential in order to sustain price declines and promote innovation in the long term. Without a viable

⁵⁴ Based on a study carried out by WIK Consult, even in very dense areas, a minimum market share of more than 20% may be required to ensure the viability of an end-to-end FTTH investment. See Annex 1 to this document.

challenger, the retail broadband market in Malta may remain stagnant, possibly even seeing an increase in prices as suggested by ARPU trends for established operators (GO and Melita). The MCA suggests that the prospects for competition in the retail broadband market are uncertain in the absence of wholesale regulation, and that the retail fixed broadband market would not tend towards effective competition without regulatory intervention.

4 Wholesale Market Definition

The purpose of this chapter is to define the relevant wholesale market related to the provision of retail fixed broadband services in Malta. In order to define the relevant wholesale market, the MCA seeks to define the relevant market by identifying a focal product and to undertake a hypothetical monopolist test in order to determine whether substitute products could be included in the same market comprising the focal product.

4.1 WLA in the 2020 EC Recommendation

Pursuant to the 2020 EC Recommendation, Wholesale Local Access (hereafter, referred to as 'WLA') continues to be deemed susceptible to ex ante regulation at EU level. Accordingly, there is a presumption in favour of continued regulation of WLA. The 2020 EC Recommendation on Relevant Markets defines the WLA market as encompassing access products that allow for the transmission of internet and related data services.

The 2020 EC Recommendation on relevant markets outlines the importance of both physical and virtual access products (particularly where deployments do not permit physical unbundling) to enable the provision of internet and related data services. It also calls for regulators to assess any constraints on the market that may result from the use of cable or other platforms to provide retail broadband services. This is in line with technical studies and reports that highlight the need for regulatory intervention to ensure that virtual access products, such as VULA, can be fully utilized and are not hindered by constraints on the market.

In this regard, the 2020 Explanatory Note states that the WLA market consists of "physical access products as well as those virtual access products that mimic the capabilities of physical access (VULA) enabling transmission of internet and related data services". Thus, the 2020 Explanatory Note allows for the inclusion of both local loop unbundling (hereafter, referred to as 'LLU') and virtual unbundled access (hereafter, referred to as 'VULA') in the WLA product market, in view of the ongoing shift towards fibre-based technologies such as FTTH, FTTB, and FTTC/VDSL as substitutes for traditional copper-based LLU and sub-loop unbundling (hereafter, referred to as 'SLU'). However, the 2020 Explanatory Note acknowledges that there may still be areas where copper networks have not been upgraded, causing some delay in this substitution process.

The first step in the wholesale market definition exercise is to identify the appropriate focal product or products comprising the WLA market. Based on the hypothetical monopolist test, the next step is to determine whether this focal product constitutes a market of its own, or whether a broader market should be defined taking into account direct supply-side or demand-side substitutes. Based on guidance from the EC SMP Guidelines, it is also necessary to consider the degree to which indirect retail constraints that arise from downstream retail markets might effectively and sufficiently constrain behaviour in the WLA market, before then assessing the geographic scope of the said market. This assessment should be carried out

on the basis of the “modified greenfield approach”, i.e. on the assumption that regulation is not present in the market under consideration.

The MCA is hereunder listing the key factors that it took into account when considering the appropriate WLA product market:

- At the wholesale level, there is demand for VULA based on the regulated VULA offer. One access seeker – Epic - relies on the VULA offer to compete on the downstream market.
- No access seeker is making use of LLU and SLU. These access products have been regulated since 2013, based on the MCA Decision entitled ‘Market 4 – Wholesale Unbundled Infrastructure Access Market’.
- The regulated VULA therefore assumes significant relevance for competition in the relevant downstream market. Hence, the absence / withdrawal of VULA would leave a material negative impact on retail competition. Epic’s market presence would be reduced to those few areas / localities where it has deployed its FTTH network. Almost 66% of Epic’s fixed broadband subscriber base is served via the regulated VULA.
- There is no demand for wholesale bitstream access. The access seeker – Epic – established its market presence on the basis of the regulated VULA offer alongside its own FTTH deployment. Therefore, opting for wholesale bitstream access at this juncture would raise costs for switching for Epic from current access points to different access points (raising also prospects that this operator’s backhaul investments could be stranded). Also, wholesale bitstream access, which forms part of the Wholesale Central Access market, no longer features in the 2020 EC Recommendation.

4.2 The focal product

The first consideration is to determine whether the focal product encompasses physical access (physical unbundling) and virtual access.

- Physical access refers to a network that provides a physical connection between the end user and the network provider. The connection is established through a physical medium such as copper wire, fibre optic cable or coaxial cable.
- Virtual access, on the other hand, refers to a network that provides a virtual connection between the end user and the network provider, thus not requiring a physical connection to the operator's infrastructure.

The availability of physical access and virtual access depends on the network infrastructures that are deployed and their respective coverage. Malta is characterized by three network infrastructures that have been rolled out to a significant extent. One is based on copper technology, another on FTTH technology and another on cable DOCSIS 3.1 technology.

4.2.1 Physical and virtual unbundled access over GO's network infrastructure

GO owns the nationwide copper network, alongside an FTTH network with 66.7% coverage of dwellings in Malta (as at end March 2023). The MCA is hereunder outlining the possibilities for access to an alternative operator to offer broadband and voices services via GO's network infrastructure:

- GO's copper network allows for the provision of unbundled access to the local loop and unbundled access to the sub-loop. Local Loop Unbundling (LLU) involves the provision of access to the copper wire pair link from the Local Exchange to the customer premise. The handover/ access is at the Main Distribution Frame (MDF) in the Local Exchange. Copper lines may also be unbundled at the cabinet level (i.e. in case of FTTC) as a sub-loop. However, whilst unbundled access to the sub-loop allows for higher speeds to be available to a greater number of users because the sub-loop is shorter than the local loop, the economic case of sub-loop unbundling is less viable because it entails a significant degree of investment on the part of the access seeker.

The MCA considers that, in case of a SSNIP by a hypothetical monopolist supplier on unbundled access to the sub-loop, a new entrant could move to use GO's unbundled access to the local loop, but the opposite would not be possible because of the high investment needed to achieve unbundled access to the sub-loop. For this reason, unbundled copper access to the local loop and to the sub-loop are substitutable from a demand-side perspective only in one direction.

The economic viability of unbundled access to the local loop is also questionable as no undertaking to date has sought such access from GO. In addition, opting for local loop unbundling is not future proof as it would not effectively allow the alternative operator to meet the requirements of end-users in a Gigabit environment. This same argumentation is likely to limit interest in subloop unbundling, which would also not be able to support Gigabit capabilities.

- GO's fibre network is configured in a PtMP GPON architecture And the MCA considers that it is not technically or economically viable for GO's fibre network to allow for physical unbundling⁵⁵.

Virtual Unbundled Local Access (VULA) is however possible via GO's FTTH network. VULA is a form of Layer 2 access that utilizes advanced virtualization technologies such as network functions virtualization (NFV) and software-defined networking (SDN). The MCA notes that it is possible to define the technical conditions and characteristics of the VULA service, such as to ensure that it is capable of replicating the same functionalities as physical access and ultimately serve as a means to meet end-user Gigabit

⁵⁵ Chain of substitution between copper and FTTH is weakening, as evident from developments at the retail level, particularly as the number of GO clients on copper VDSL is shrinking fast. Latest data shows a continued decline in the number of copper VDSL clients, notwithstanding that GO's FTTH coverage still lacks reach to circa 33% of all dwellings in Malta. As more end-users get retail fixed broadband products with higher bandwidths, the business case for physical local access becomes practically non-viable.

requirements. VULA is currently offered by GO as a regulated product not on a commercially negotiated basis. Such access is very relevant in Malta's context, considering that Epic's presence in the fixed telecom segment (since 2019) has been made possible by way of regulated VULA on GO's network infrastructure. During the course of 2021, Epic started the roll-out of its FTTH network and launched its commercial offers. However, this operator's retail presence still relies heavily on the regulated VULA, while its national FTTH coverage (as at end March 2023) only accounted for 5.8% of all dwellings in Malta.

One of the key advantages of VULA is that it enables access seekers to gain a high level of control and greater flexibility over their network traffic compared to traditional "best effort" bitstream offerings. This is because VULA provides access seekers with their own virtual Local Area Network (LAN), which enables them to prioritize and route their network traffic as they see fit.

Moreover, VULA offers access seekers the ability to leverage a range of advanced network services such as Quality of Service (QoS), multicast, and multicast VPNs, which can be customized to suit their unique business needs. This allows access seekers to offer advanced services to their end customers, such as high-quality video streaming and Voice over IP (VoIP) services.

In light of the above, the MCA considers that the wholesale focal product comprises virtual unbundled local access, considering such access as the viable future-proof substitute for physical unbundled access over GO's copper network. This is because unbundled access to the local loop and to the sub-loop are not feasible options in practice. Physical unbundled access is not viable over GO's FTTH network. On the other hand, virtual unbundled local access over GO's FTTH network offers access seekers (such as Epic) a highly flexible and customizable solution that utilizes advanced virtualization technologies, providing the same functionalities as physical access, while enabling them to offer advanced network services to their end customers.

4.2.2 Access possibilities over Melita's cable DOCSIS 3.1 network

This sub-section considers the possibilities for access over Melita's cable DOCSIS 3.1 network and whether the potential for such access could effectively substitute virtual unbundled local access over GO's FTTH network.

Melita has installed a cable-TV network based on DOCSIS 3.1⁵⁶ which reaches approximately 90% of homes in Malta. The cable-TV network relies on the shared use of coaxial copper and

⁵⁶ DOCSIS (Data over cable service interface specification) only specifies the bi-directional data (and Voice) communication on a cable-TV network. It does not cover the TV-signal transmission. The cable-TV infrastructure originally was based on pure coaxial cables, which allow for the transmission of high frequency signals up to 2,5 GHz, thus offering high capacity. Not all of the capacity was required for TV-signal broadcasting, thus data channels

fibre infrastructure. This stems from its original design which was focused on distributing TV-signals from central Antenna locations to end-customers (i.e. a “broadcast-style” service). The bi-directional communication capabilities of cable were added later with the introduction of DOCSIS and subsequently consolidated with the implementation of DOCSIS 3.1 technology.

The MCA therefore considers the potential for physical and virtual unbundling of cable and thus the case for access seekers to opt for cable-based bitstream access.

It is not possible to implement physical unbundling of cable in Malta, given the shared nature of cable access. This is because unbundling a single line would imply unbundling a whole cluster of lines on the same optical node or coaxial amplifier. Indeed, whereas each customer line is dedicated between the central exchange and the end-user in the case of copper networks, all users on the same optical node / coaxial amplifier use the same physical cable.

Meanwhile, DOCSIS 3.1 cable technology is deemed to be already capable of providing IP-based bitstream (as also defined in Market 3b of the 2014 Recommendation on Relevant Markets). However, given developments in the market since 2020 (particularly Epic’s launch of own FTTH), the MCA considers that the focus to determine the potential for substitution between cable-based bitstream access and fibre-based virtual unbundled local access should be premised on two main parameters, namely (i) the functional replicability in terms of the technical characteristics supported by each product, and (ii) the willingness of the access seeker to migrate between access points or to make use of various handover points within the network architecture (effectively focusing on the cost to switch from one product to the other).

4.2.2.1 Functional replicability

Cable DOCSIS 3.1 technology does not offer the technical capability to support/match the flexibility required for Layer 2 access, as defined in VULA. This is because, when it comes to the flexibility of differentiating retail products, cable-based bitstream access would exhibit limitations compared to fibre-based virtual unbundled local access. The latter kind of access allows for the delivery of differentiated retail products with higher bandwidth and more consistent performance as well as lower latency, all of which are deemed critical for applications such as online gaming and video conferencing. Cable-based bitstream access

have been added, typically framing the TV-channel frequency space. While the TV-signal broadcasting and the data downstreaming requires a unidirectional transmission from a central to the end-customer sites the upstream channel requires a transmission vice versa.

All transmission on the coax-cables requires amplification/regeneration of the electrical signals at regular intervals (appr. 400m). DOCSIS typically is a hybrid technology with coaxial copper cables in the network end-segment from a so called fibre node to the end customer’s TV-outlets, while fibre links connect towards the central sites with their TV-signal Headend and the Cable Modem Terminations System (CMTS). Both infrastructures (fibre and coax-cable) are used in a shared manner, and its access by the end-customers is managed by the CMTS and its counterpart – the cable modem at the TV-outlets in the customer premises.

only provides for retail broadband products that are characterized by a significant asymmetry between upstream and downstream channels. Upstream by design has around 10% of the downstream capacity, which may limit the capabilities of DOCSIS to handle certain applications with benefit from more symmetrical capabilities, which may include cloud computing and home working solutions. This goes to indicate that fibre-based virtual unbundled local access is more suited for delivering premium services such as gigabit broadband and multi-gigabit broadband services, within the timeframe of this review.

Further to the above, the MCA notes that with the transition to DOCSIS 3.1 FD (4.0) accompanied by the full digital use of the coax cable spectrum⁵⁷, a VULA equivalent could be defined for DOCSIS-based access networks. This is however not the case yet in Malta, nor is it anticipated for this scenario to materialise within the timeframe of this review⁵⁸.

Melita has also launched a pilot FTTH project in one locality in Malta but this has been mainly to do with test basing the capabilities and feasibility of cable versus fibre in view of potential future investments in the network. Additionally, this operator already owns a nationwide cable infrastructure that can deliver gigabit speeds and that is widely available. Melita is therefore under no particular urgency to deploy the FTTH network for access purposes.

The MCA therefore considers that cable-based bitstream access does not functionally replicate the flexibility associated with virtual unbundled local access (or Layer 2 access).

4.2.2.2 Switching barriers

Further to the above, the MCA notes that Epic already has an agreement to utilize regulated VULA on the GO network and has also deployed its own FTTH infrastructure. This therefore means that Epic would need to undertake significant additional investments to utilize cable-based access, thus leading to high switching costs. These switching costs would in fact inhibit Epic from migrating to cable-based access given the below:

- The costs associated with switching from one broadband infrastructure type to another can be very significant for existing operators. For example, Epic would have to bear the cost of upgrading existing network architecture to support the new infrastructure. This could involve reconfiguring the network, replacing existing equipment and upgrading existing backhaul investments, all of which can be very expensive and make the transition cost-prohibitive.
- Additionally, Epic's existing network architecture may not be suitable for accessing the cable infrastructure, taking also into account this operator's existing sunk investments in backhaul. This would require further investment to upgrade or reconfigure the network.

⁵⁷ DOCSIS 4.0 will enable full bidirectional transmission of 10 Gbps in a shared transmission area and effectively deliver a service with improved performance and capabilities that would qualify as VULA equivalent.

⁵⁸ In this regard, no announcements have been made by Melita regarding upgrades to its DOCSIS 3.1 technology. This development is therefore not relevant within the timeframe of this market analysis.

These costs, coupled with the technical challenges of switching to a different infrastructure, make it unlikely that the existing access seeker would switch to access over the cable network.

The MCA is therefore of the view that access seeking operators such as Epic would not consider wholesale broadband access over the cable network as a substitute for local access. At this juncture, such a course of action would effectively see Epic leave the investments into its own network infrastructure stranded. Additionally, there are no signs of other broadband providers that would need wholesale broadband access over cable within the timeframe of this review.

4.2.2.3 Consideration of possible indirect constraints

Even if cable does not provide a direct constraint for FTTx, it is possible that it could provide an indirect constraint if an increase in the price of VULA would lead to a loss of wholesale market share as a result of consumers switching to cable. This might be the case if the share of customers relying on VULA is relatively high and thus increasing the VULA price risks a substantial loss in GO's wholesale customer base. However, the share of customers making use of VULA is extremely low. Thus, GO could increase the VULA price without any significant impact on its wholesale market share or revenues. MCA concludes that, at the present time, cable does not provide an indirect constraint on VULA.

4.2.2.4 Conclusions regarding cable

The MCA therefore concludes that cable-based bitstream access is not part of the market comprising virtual unbundled local access over GO's network, and cable does not exert indirect constraints on VULA.

4.3 The case for including physical infrastructure as part of the market

The biggest cost in deploying a network is physical infrastructure, such as underground ducts, manholes and aerial poles. In fact, cost models show that 50% or more of capital expenditure is for access segment infrastructure deployment⁵⁹. Access to this infrastructure is therefore crucial for facilitating parallel local access networks, if feasible.

As noted earlier, GO is the only operator in Malta with a nationwide physical infrastructure network aimed for the provision of retail telecom services. Melita does have a nationwide presence but nonetheless its ability to compete at retail level, particularly in the provision of

⁵⁹ Based on cost models developed by WIK-Consult, which show that the deployment of physical infrastructure in the access segment makes up 50% or more of the total capital expenditure.

broadband, depends on two key factors. First, the Maltese Government granted it monopoly status for cable TV services when it started in 1991⁶⁰. Then, in 1992, GO signed an agreement to allow Melita access to its physical infrastructure for deploying the latter's cable network. GO was then a government-owned entity known as Maltacom plc⁶¹. Epic's physical infrastructure is limited to those areas in localities where FTTH has been deployed by this operator.

The MCA gathered more information on the role of physical infrastructure in Malta in a survey it carried out in 2021. The main findings are outlined hereunder:

- GO operates an extensive duct network across the whole national territory, aimed specifically for the laying of WLA inputs for the purposes of providing electronic communications services. GO has indicated circa 70% of its duct network under the 'transportation' category⁶² and the rest under the 'distribution' category⁶³.
- Other infrastructure-based providers have constructed some ducts, but these cover a very minor proportion of the duct infrastructure covered by GO. Melita and Epic also reported owning physical infrastructure but on a very limited scale. Combined together, the physical infrastructure owned by these operators only account for less than 10% of the extent of GO's underground (duct) infrastructure.
- In addition to its own ducts, which are only available on a very limited scale, Melita makes use of access to GO's duct infrastructure for around 40% of its transport network⁶⁴, but these network elements are not available to Epic.

⁶⁰ Melita enjoyed monopoly status in the TV broadcast transmission market for several years, with this operator being the only provider of television services in Malta between 1992 and 2005.

⁶¹ The Maltese Government facilitated the deployment of Melita's cable network via the insertion of apposite provisions in legislation, to the effect that Melita could also pass its infrastructure over private property (whether underground or overhead) without the need to pay remuneration.

⁶² 'Transportation' network means any elements which either interconnects a regional exchange with other regional exchanges or connects the regional exchange with the main distribution street cabinets. The transportation network elements are used to house passive infrastructure carrying high data capacities and consist mainly, but not limited to underground duct and tunnels. (Infrastructure in transportation network elements are usually relatively large diameter pipes – 60 mm / 80 mm / 100 mm / 150 mm or greater tunnels).

⁶³ 'Distribution' network means any elements which interconnects the main distribution street cabinets with secondary distribution cabinets, supply systems of large buildings, aero-underground transition manholes (also referred to as the 'last mile'). The distribution network elements are used to house passive infrastructure carrying lower data capacities and may consist of underground ducts as well as aerial poles or brackets. (Ducts installed in the distribution network elements are usually composed of relatively smaller diameter pipes – 65 mm / 45 mm / 33 mm or 28 mm.)

⁶⁴ Based on responses received from Melita and GO to a survey on physical infrastructure carried out in 2021, the MCA understands that there is a need for ducts for transportation network purposes and that there is limited alternative to ducts constructed by or wholesaled by telecom operators.

- Operators made reference to their current access and use of physical infrastructure owned by non-ECN providers, mainly via Enemalta's aerial infrastructure, for their distribution requirements. Operators did however point out that access and use of such infrastructure presents operational complexities in the overall scheme of things. First, non-telecom physical infrastructure is not earmarked specifically for telecom purposes and priorities for the use of such infrastructure by non-telecom providers is not aligned with the priorities of telecom operators and thus hampers operational plans. There is also insufficient information available on the processes and procedures in place (including information systems / GIS platforms, and data formats employed in the upkeep /maintenance of related infrastructure information). This complicates the process to reach commercial access agreements with non-ECN providers. Some restrictive rules are also typically in force for access to non-telecom physical infrastructure (in particular for physical infrastructure owned by Enemalta).

Based on this information, the MCA is hereunder assessing the substitutability between ECN and non-ECN physical infrastructure. Thereafter, the Authority assesses substitutability between access to physical infrastructure (mainly via ducts) and virtual unbundled local access.

4.3.1 Substitutability between physical infrastructure owned by ECN and non ECN providers

Operators have explicitly stated their need for access to ducts when it comes to their operational activities concerning telecom services. However, the high expenses associated with constructing the necessary physical infrastructure to deploy fibre optic networks, particularly through underground ducts, poses a challenge for new competing network operators seeking large-scale deployment. Hence access to existing physical infrastructure could facilitate market entry and consolidate the prospects for competition.

Notably, GO has a distinct advantage over competing operators when it comes to physical infrastructure as it controls the most extensive and comprehensive duct network in Malta. GO utilizes this duct network, which has been specifically designed for telecom purposes, to deploy its fibre network. This means that access to GO's ducts for rival operators can help to address this enduring advantage for other operators seeking fibre deployment and / or a presence at the retail provision of fixed broadband services in Malta.

Currently, GO allows Melita access to its infrastructure through a reciprocal duct agreement dating back to 2002, with the original agreement dating back to 1992. GO does not grant open-ended access to Melita but instead evaluates each request on a case-by-case basis, subject to available space. Melita's ability to achieve nationwide coverage in recent years should be viewed in light of this arrangement, as it has enabled Melita to reduce upfront costs and deploy more rapidly. Melita has confirmed that access to GO's physical infrastructure is critical to its ongoing operations. Importantly, Melita's access to GO's infrastructure - measured in kilometres of ducts - is equivalent to approximately 40% of all underground physical infrastructure (i.e. ducts) currently managed by Melita.

Epic lacks a similar agreement with GO, but it has an agreement with Melita concerning duct access, which of course does not allow for a similar territorial reach as it would have been the case with access to GO's extensive physical infrastructure.

Based on the information submitted by operators, the MCA considers that there is a need for ducts when it comes to operational activities concerning telecom services, with requirements of equal importance irrespective of the categorisation between the transportation and the distribution segments. The validity of applying such a categorisation only lies in the context of route demarcation for access purposes and effectively is not relevant in a dense urban setting such as Malta's.

Also, the MCA considers that non-ECN providers offer no equivalent alternative to GO's duct network, given the ubiquity of this operator's infrastructure in terms of nationwide coverage. The MCA has already explained above that GO's duct infrastructure is unique and therefore critical for the telecom sector in Malta as a whole. Whilst all operators use Enemalta's aerial poles or brackets infrastructure (typically for last mile connectivity), such use is subject to restrictions and does not equate to a guaranteed long-term solution given the potentially divergent long-term priorities of Enemalta.

In general, operators stated that access to non-ECN physical infrastructure offers significant challenges to coordination on network maintenance and / or is not conveniently placed to deliver services to end-users. From a practical stand-point, the priorities of non-ECN providers are not aligned with those of ECN providers. Hence, whilst alternative operators would seek to address the requirements of potential clients in short order, any request of use of non-ECN providers for this purpose could face lengthy timelines for responses⁶⁵. Moreover, infrastructure information (for example, mapping information by duct route) may not always be readily available. Commercial negotiations especially with regard to prices may also be lengthy. In some case, security considerations become a prime consideration by non-ECN providers, such as in the case of Enemalta which stated that it was constrained in providing access to ducts due to security reasons.

Given the above, the MCA considers that access to physical infrastructure owned by non-ECN providers does not pose a direct competitive constraint on a hypothetical monopolist of wholesale access to GO's physical infrastructure for deploying a telecoms network. Effectively, this means that access seekers – such as Melita and Epic – cannot rely on access to physical infrastructure owned by non-ECN providers, as this is not equivalent to access over GO's physical infrastructure. Melita already relies to a significant extent on access to GO's physical infrastructure and Epic is reportedly seeking similar access. Therefore, if GO increased the price for access to its physical infrastructure or refused such access, Melita and

⁶⁵ Epic for example claims that '*if an access seeker requests access to passive infrastructure there is a 2-month period by when the access provider can respond*' and that '*this needs to be drastically shorter (maximum of 10 days)*'.

Epic would be in a disadvantaged position, without effective means to pose a direct constraint on GO's behaviour in this segment.

Melita's own statements also refer to the criticality of access to GO's physical infrastructure and that its business model depends on such access. Epic is reportedly seeking similar access notwithstanding usage of physical infrastructure owned by non-ECN providers. This goes to imply that access to physical infrastructure owned by non-ECN providers does not afford the same advantages as in the case of access to GO's physical infrastructure, particularly to increasingly deploy networks to supply the full range of downstream services to most dwellings in Malta. The advantages of this business model, in terms of the economies of scale and scope that can be realized, as well as the flexibility to meet changes in demand, make it likely that this will be the predominant business model for competitive network deployment in future.

Additionally, to the above, the MCA is not aware of any plans by Melita and Epic to make significant use of each other's physical infrastructure (which infrastructure is only available to a limited extent)⁶⁶ and of physical infrastructure owned by non-ECN providers, at least to a bigger extent than that observed to date.

The MCA therefore considers that the physical infrastructure element for the scope of the current analysis should focus on physical infrastructure via ducts owned by ECN providers, in this case owned by GO, and thus exclude other forms of physical infrastructure, namely that owned by non-ECN providers and the physical infrastructure that currently features under the swap agreement by Melita and Epic.

4.3.2 Substitutability of PIA to WLA

Access to physical infrastructure, mainly through the ducts, assumes significant relevance in facilitating competition. Melita is already accessing GO's duct infrastructure alongside its own network capacity to supply fixed telecom services in Malta. However, GO did not grant Epic access to physical infrastructure, despite Epic reportedly requesting such access. Using ducts for physical infrastructure could allow Epic to deploy FTTH as an alternative to using VULA. It seems likely that, at least in more densely populated areas and during this phase when networks are being deployed, if both VULA and duct access were available, Epic (and if present other access seekers) might respond to an increase in VULA prices by making use of duct access to deploy its own network. Likewise, Epic might make use of duct access to deploy

⁶⁶ Epic and Melita have a swap agreement in place, currently covering 20km of local duct rental and fibre swaps. Meanwhile, Melita's legacy agreement with GO is also covered by reciprocity but nonetheless GO has not to date made use of any of Melita's duct infrastructure.

its own FTTH network in areas where FTTH VULA is not yet available because GO has not yet deployed in the area concerned.

In Malta's case, therefore, PIA could be a substitute to virtual access, in order for Epic to supply a retail fixed broadband product that would be available nationwide. This would be consistent with the finding of French NRA ARCEP⁶⁷ that, early in the fibre deployment phase, physical infrastructure including ducts was from the perspective of access seekers a substitute for local access via fibre and copper, and fell within the scope of the wholesale market definition.

It is possible over time that this may change, in particular as Epic deploys its network, duct access would no longer be substitutable for VULA due to the sunk costs involved in deploying fibre in the ducts. However, to date the MCA does not as yet have clear visibility as to what extent GO's ducts would be used by Epic to deploy competing downstream services. Therefore, the MCA considers it would be premature to identify PIA as a separate market in its own right in Malta. Nonetheless, the Authority recognizes the relevance of this product as an alternative to access seekers to build own infrastructure. The MCA concludes therefore that, at this stage in network deployment, duct access should be included in the relevant wholesale market covering physical and virtual infrastructure access.

4.4 Substitutability of access via wireless technologies and virtual unbundled access

The MCA found that retail fixed broadband supplied via fixed wireless technology is not substitutable to fixed broadband supplied via wired technologies like copper VDSL and FTTH. This is because broadband services provided over fixed wireless technologies in unlicensed spectrum bands and over 4G platforms have significantly lower download speeds compared to copper VDSL, cable, and fibre-based services. The main reason is the limitations in transmission caused by physical barriers, climatic factors, and the wireless nature of the service. Moreover, fixed wireless broadband is subject to data download limits because of the limited spectrum bandwidth, while no such limits apply to fixed broadband via copper DSL and FTTH.

The MCA notes that all three network operators, GO, Melita, and Epic, provide 4G/5G mobile telephony services. However, the MCA observes differences in consumer behaviour when it comes to fixed and mobile broadband. The MCA also notes that mobile networks require high-capacity antennas and feeder networks typically provided by fibre links, and new technologies such as C-RAN and edge cloud solutions may require even more fibre links.

Radio transmission is also impacted by physical barriers like walls and electromagnetic interference, such as lightning and rain. To achieve good indoor coverage in densely

⁶⁷ See page 27 ARCEP Decision no. 2011-0668 14 June 2011. https://www.arcep.fr/uploads/tx_gsavis/11-0668.pdf

populated areas like Malta, frequency use in the >3 GHz range will require more cells, outdoor antennas, and repeaters. The fibre density required for mobile in a 5G context could in the medium term become similar to an FTTH network. Therefore, fixed and mobile are likely to offer complementary solutions instead of substitution, especially given the significant role of mobile offloading.

Therefore, the MCA concludes that wholesale access via fixed wireless and mobile technologies, including 5G, is not substitutable to wholesale virtual unbundled local access.

4.5 Substitutability of dedicated capacity to virtual unbundled local access

The provision of dedicated capacity does not fall within the retail broadband market that is relevant for the current analysis. Hence, the MCA considers it unlikely that the provision of dedicated capacity services could act as a supply-side substitute for the WLA focal products.

Typically, such products are earmarked for large corporate end users, to supply a spectrum of services that are not required by the mass market, such as connectivity that goes beyond the standard fixed broadband connection. These high-quality options are more expensive than regular fixed broadband plans and don't fit into the normal pricing dynamic for standard fixed broadband. Thus, the MCA believes that wholesale access to these specialized dedicated capacity products is not part of the wholesale market that includes WLA and PIA.

Given the observed differences in functionality and price emanating at the retail level, the MCA considers that there would also be a break in substitution at the wholesale level and that, in response to a SSNIP of the WLA focal products, there would not be sufficient switching to dedicated capacity products such as to render that SSNIP unprofitable. The MCA therefore concludes that, within the short to medium term, the provision of wholesale dedicated capacity will not pose an effective direct competitive constraint on the provision of WLA⁶⁸ and therefore does not form part of the relevant wholesale market under investigation.

4.6 The relevant product market

The MCA concludes that the scope of the wholesale product market under investigation encompasses (i) the provision of wholesale physical access over the copper network; (ii) the provision of virtual unbundled local access (VULA) over GO's FTTx network; and (iii) access to GO's physical duct infrastructure. The market could thus be described as the wholesale fixed market for physical and virtual infrastructure access.

⁶⁸ The MCA has published a decision on the market concerning the wholesale provision of dedicated capacity in Malta on the 23rd of December: <https://www.mca.org.mt/consultations-decisions/mca-decision-concerning-wholesale-market-provision-dedicated-capacity-malta>

4.7 The relevant geographic market

The relevant geographic market comprises an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which the conditions of competition are sufficiently homogeneous, and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are significantly different. Areas in which the conditions of competition are heterogeneous do not constitute a uniform market.

The MCA notes that competition in Malta for infrastructure-based WLA and PIA is limited, as most of the country lacks multiple infrastructures. Only GO can provide WLA and PIA on a national level. Melita and Epic have some ducts, but these are minimal compared to GO's infrastructure. Melita uses an element of GO's ducts for around 40% of its network requirements, but Epic does not have similar access.

The MCA considers the following factors in defining the geographic scope of the relevant market for virtual access via physical infrastructure in Malta:

- A nationwide pricing constraint applies at the wholesale level because GO supports WLA for retail broadband services across the country.
- There's no evidence of different competitive outcomes in terms of pricing in areas where Epic has deployed FTTH infrastructure.

Based on the above, the MCA considers the defined market to be nationwide.

5 SMP Analysis of the Wholesale Market

The assessment of SMP is a key aspect of market analysis and is used to determine whether an undertaking has the ability to behave to an appreciable extent independently of its competitors, customers, and ultimately of consumers. This is relevant in the context of regulation and intervention to ensure fair competition and prevent abuse of dominant positions.

The 2018 EC SMP Guidelines provide guidance on how to carry out the SMP assessment and outline the relevant factors to consider throughout the exercise. The outcome of the assessment of SMP will inform the MCA's regulatory intervention and help ensure fair competition in the relevant markets.

5.1 Approach to the assessment of SMP

The list of markets included in the 2020 EC Relevant Market Recommendation are presumed to be susceptible to ex ante regulation⁶⁹. The wholesale market that has been defined in this case (see sections 4.6 and 4.7) is very close to that identified as Market 1 of the Recommendation i.e. Wholesale local access provided at a fixed location. To the extent that it diverges, it is through the inclusion of an upstream "PIA" product as a substitute to VULA, which would normally tend to strengthen a finding that the market exhibits high entry barriers and is not susceptible to competition. Thus normally, the market defined in this case should be considered susceptible to ex ante regulation. Nonetheless, as it varies to a small degree from the WLA definition in the 2020 EC Relevant Market Recommendation, the assessment of the defined market is first subject to the three-criteria test in order to determine whether it is susceptible to ex ante regulation. The three-criteria test will be passed if the following criteria are cumulatively met:

- High and non-transitory structural, legal or regulatory barriers to entry are present;
- There is a market structure which does not tend towards effective competition within the relevant time horizon, having regard to the state of infrastructure-based competition and other sources of competition behind the barriers to entry; and
- Competition law alone is insufficient to adequately address the identified market failures.

Thereafter, the presence of SMP is assessed in line with the provisions of the EECC and EC SMP Guidelines.

⁶⁹ Article 67(1) EECC.

5.2 Evaluating the three criteria test

As already stated in section 5.1, the MCA notes that the market for WLA is deemed by the EC to be a market susceptible to ex ante regulation, pursuant to the 2020 EC Recommendation on relevant markets.

Given that the market defined in the current analysis includes PIA, the MCA is briefly evaluating the appropriateness of regulation in this market in Malta by carrying out the so-called Three-Criteria Test, which is described below.

5.2.1 Structural, legal or regulatory barriers to entry

According to the 2020 EC Recommendation, a structural barrier to entry exists when *'the state of the technology and the nature of the network, with its associated cost structure, and/or the level of demand, are such that they create asymmetric conditions between operators, preventing market entry or expansion of competitors'*.

In this market analysis case, the MCA considers that structural barriers are present as a result of the significant economies of scale associated with the deployment of physical and virtual local infrastructure. As previously noted, the duplication of fixed local infrastructure is not viable nationwide, and even where viable, requires significant market shares which cannot easily be attained by a new entrant, noting that the retail market is mature and switching is limited. Duplication of physical infrastructure access on a nationwide basis is even more challenging, as is evidenced by the reliance by Melita on GO's physical infrastructure, and this asset has generally been considered to be a non-replicable asset EU-wide.

As for legal or regulatory barriers, the European Commission deems that these *'are not based on economic conditions, but result from legislative, administrative or other State measures that have a direct effect on the conditions of entry and/or the positioning of operators on the relevant market'*.

In this case it is relevant to note that GO's physical infrastructure as well as copper network were deployed at a time when it enjoyed a monopoly and was publicly owned. Melita was provided with access to GO's physical infrastructure access during a period where the assets were under state ownership. These historical aspects lead to market asymmetries whereby entrants have not been and cannot be afforded the same conditions as those which benefited from public funds or access agreements during the period of GO's state ownership.

5.2.2 Market structure does not tend towards effective competition

The same factors as discussed in relation to high entry barriers also limit the prospects for the wholesale market for fixed physical and virtual infrastructure access to tend towards effective competition. Economies of scale limit the scope for end-to-end infrastructure-based competition in certain areas, and significant challenges exist to an entrant seeking to disrupt the status quo, due to imbalances in access to essential physical infrastructure and the market

share thresholds needed to sustain additional networks. Evidence that the market is not tending towards competition also comes from the history of difficulties faced by access seekers in securing wholesale access to PIA or VULA in the absence of regulation, and the withdrawal of access when regulation was removed. The existence of long-term commercial offers could potentially pave the way towards effective competition, but have not been secured despite negotiation attempts by Epic.

5.2.3 Competition law on its own insufficient

The Recommendation states that *'The decision to define a market as susceptible to ex ante regulation should also depend on an assessment of the sufficiency of competition law to address adequately the market failures identified'*. It adds that *'This third criterion aims to assess the adequacy of competition law to tackle identified persistent market failure(s), in particular given that ex ante regulatory obligations may effectively prevent competition law infringements'*. Further to the above the 2020 EC Recommendation states that *'Competition law based interventions are likely to be insufficient where frequent and/or timely intervention is indispensable to redress persistent market failure(s)'* and that *'In such circumstances, ex ante regulation should be considered an appropriate complement to competition law'*.

The removal of wholesale access following the lifting of regulation in the past, and MCA's experience in mandating and implementing the VULA remedy suggests that ex ante rules and continued monitoring and enforcement are needed to intervene in a manner which is effective and will support competition. Clear ex-ante intervention will also be vital to ensure the timely provision of duct access such that it can support the deployment of competing FTTH networks.

In view of the above, the MCA considers that competition law is unsuited in addressing the very detailed requirements needed to render VULA and duct access agreements effective. BCRD measures are also not deemed sufficient and well-suited in that these address only physical infrastructure access and not VULA, can only be applied "ex post" following a dispute, and are based on "fair and reasonable" pricing, which may not be adequate to ensure that PIA is available on terms which support effective competition in downstream markets

5.2.4 Conclusions regarding 3 criteria test

The MCA considers that each of the three criteria are satisfied and that therefore ex ante regulation is warranted in the wholesale market for the provision of physical and virtual access in Malta. The next step is to carry out an assessment to identify the player or players which are able to behave independently of competitors and consumers and should therefore be designated as having "Significant Market Power" (SMP).

5.3 SMP assessment

An SMP position translates into a position of economic strength affording a provider to implement strategies and behave to an appreciable extent independently of competitors, customers and ultimately consumers.

Of relevance to underline again at this juncture is that the current market definition is only slightly different to the definition of Market 1 in the 2020 EC Recommendation and that this definition largely corresponds to the MCA's definition in 2013 of 'Market 4 - Wholesale Unbundled Infrastructure Access Market'. Although the product market now includes PIA as a substitute to WLA, the afore-mentioned Market 4 definition encompasses WLA. The MCA notes that GO is currently the designated SMP operator in Market 4. Hence the current SMP assessment will determine whether this is expected to continue to be the case over the timeframe of this review, being that of five years.

The MCA applies the "modified greenfield approach" for the SMP assessment, assessing the market as it would be in the absence of ex-ante regulation arising from a finding of SMP within the relevant market in question.

5.3.1 Criteria for SMP assessment

Having regard to the criteria for assessing SMP as set out in the EC SMP Guidelines, the current assessment is based on a selected list of criteria (based on Paragraph 58 of the SMP Guidelines), which the MCA deems most appropriate for the relevant market under investigation. These criteria are highlighted hereunder:

- overall size of the undertaking;
- barriers to entry and expansion;
- control of infrastructure not easily duplicated;
- vertical integration;
- economies of scale;
- economies of scope;
- absence of or low countervailing buying power;
- product/services diversification (for example, bundled products or services);
- absence of potential competition.

5.3.2 Overall size of the undertaking and market share

The EU Commission SMP Guidelines state⁷⁰ that a market share exceeding 50% is generally considered evidence of significant market power, although a high market share alone is not enough to prove SMP. As noted in section 4.6, the relevant wholesale market encompasses wholesale physical and virtual access (FTTx VULA) and physical infrastructure access for the

⁷⁰ Paragraph 54 SMP Guidelines

purposes of deploying electronic communications networks. Other technologies such as cable are not considered to provide a direct constraint in the wholesale market, and do not provide an indirect constraint primarily due to the very low proportion of wholesaled lines, which would limit the financial impact on GO if it increased charges for VULA.

GO maintains a very high market share in physical and virtual unbundled access over FTTx. Effectively, GO accounts for 93% of all duct infrastructure that is currently available / utilized for the provision of physical and virtual unbundled access, whilst it accounts for 98.9% of all wholesale VULA-based services (taking into account self-supply). The only alternative infrastructure which would be capable of offering an equivalent service is Epic's end-to-end FTTx network, which maintains a market share of 1.1% of the relevant wholesale market.

To date Epic's fibre-network coverage reaches only 5.8% of all dwellings in Malta (by end of March 2023), with deployment happening at the localities of Attard, Balzan, Birkirkara and Mosta. Epic's full coverage of these localities is targeted for completion by 2024. Epic's coverage of FTTx may expand, over the course of the market review, but this operator has indicated that its fibre-network coverage will not go beyond 25% of all dwellings in Malta. Epic's market share even within the areas where it has deployed fibre is limited, and thus it is unlikely that GO's wholesale market share (including self-supply) in physical and virtual FTTx infrastructure will go much below 90% nationwide during the period of the review.

The MCA again notes that, uniquely amongst electronic communication providers in Malta, GO also benefits from a ubiquitous duct infrastructure, which is likely to provide an advantage in enabling it to further expand its FTTH deployment and thus to sustain or increase its revenues.

5.3.3 Barriers to entry and expansion

The MCA considers that there are significant barriers to entry in the wholesale market under investigation, both inherent and due to the advantages held by the incumbent operator GO.

Certain barriers to entry are inherent to the physical and virtual access market. For instance, a new operator like Epic would incur significant upfront and sunk costs to build its own FTTH network, and models suggest that full duplication of the duct and access network is unlikely to be economically viable across the whole of the country. Moreover, GO is in a position to benefit from a number of advantages, considering they have built a strong customer base over the years, which today translates into economies of scale and scope. The maturity of the market, limited tendency to switch and preference for bundles, makes it difficult for new entrants to build a market share which would be sufficient to support the business case for FTTH deployment. This is evidenced by the fact that Epic only managed to reach a 1.5% share of

the relevant fixed broadband subscriber base⁷¹ over the past two years of operation in the fixed segment via FTTH and mainly by way of the regulated VULA.

The ubiquity of GO's duct infrastructure also gives the incumbent competitive advantages over new and even other existing undertakings that can act as a barrier to expansion.

The MCA therefore concludes that the wholesale market for the provision of virtual and physical access in Malta is subject to significant barriers of entry and expansion, that particularly impede new players from gaining a foothold in the market.

5.3.4 Control of infrastructure not easily duplicated

The MCA notes that GO operates an extensive duct infrastructure, covering circa 3,900kms, over which it lays its own WLA inputs. GO's duct infrastructure is unique, in that it is ubiquitous and serves specifically the purposes of the telecoms sector. Melita and Epic have constructed some ducts, but to a very limited extent, and thus both operators lag significantly behind GO in terms of duct reach. The following points are relevant in this regard:

- GO was a state-owned company at the time it constructed its network infrastructure and had therefore operated in market conditions that are completely different to those prevailing today.
- Epic's duct network only reaches a small number of localities, namely Attard, Balzan, Birkirkara, and Mosta. Based on the latest information supplied by Epic (as at end of March 2023), the coverage of this operator's FTTH network stands at 5.8% of all dwellings in Malta. Relevant to note that the number of dwellings in the above-mentioned localities account for circa 11% of all dwellings in Malta. Epic does not have access to GO's duct infrastructure.
- Melita leverages GO's duct infrastructure for circa 40% of its network requirements. This is a result of a legacy duct-access agreement with GO that has been in place since 1992.
- Operators have explicitly expressed their preference for access to GO's ducts when it comes to their operational activities concerning telecom services. Based on the feedback submitted to the 2021 study on physical infrastructure, the MCA considers that there are limitations on usage of such non-ECN infrastructure⁷², such as lack of access apparently for security purposes by the electricity supplier Enemalta. Essentially, the main concerns of operators relate to the additional cost, time and operational complexity when combining multiple non-ECN infrastructures to provide the same level of

⁷¹ Excluding subscriptions based on fixed wireless access technologies.

⁷² The MCA study on physical infrastructure in 2021 did not specifically refer to the purpose of physical infrastructure for the provision of dedicated connectivity but rather the deployment of network infrastructures for the provision of electronic communications services on a general level.

connectivity that could be achieved via a single access arrangement based on GO's ubiquitous infrastructure.

The MCA is of the opinion that constructing physical infrastructure, particularly ducts, for the purpose of laying fibre and providing telecom services is a complicated and costly long-term endeavour. GO is additionally able to use its control of this infrastructure for its own advantage in the deployment of FTTH infrastructure. While FTTH should be replicable in at least some portion of the territory, the potential for GO to leverage its advantages in duct access into FTTH deployment reduces the prospects for replicability of FTTH. Furthermore, GO also controls FTTx access infrastructure in areas of the country where network replication would not be economically viable, even with the support of duct access.

The MCA concludes that in the absence of regulation it would be very difficult to replicate GO's physical and virtual access infrastructure to any significant degree.

5.3.5 Vertical integration

In the telecoms sector, vertical integration refers to a company operating within the market while also having a presence in a related market either higher or lower in the supply chain.

GO benefits from vertical integration going from the physical infrastructure assets through to retail services. Its presence in the retail market provides an incentive to deny access to ducts and VULA, or to offer access on terms that would be to its own advantage e.g. by cross-subsidising between wholesale and retail revenues to create a margin squeeze for access seekers and benefit its own downstream arm, or by applying non-price discrimination e.g. in the terms provided for provisioning and repairs. Its conduct in practice, including a failure to provide duct access to Epic and early challenges with the implementation of the regulated VULA product, confirm its ability and incentive to deny access on reasonable terms.

The MCA concludes that GO benefits from vertical integration which could result in market foreclosure, in the absence of regulation.

5.3.6 Economies of scale

Economies of scale refer to the cost reductions that a business may enjoy as it expands its production and penetrates the market in which it operates. Economies of scale are generally achieved because as production increases, the cost of producing each additional unit falls, provided that fixed costs, among other elements, are shared over an increased number of units. On the same lines, the additional costs incurred by a fixed access operator will fall as more subscribers are roped in.

In the Maltese market, GO has been established for a longer time than Melita and the latest entrant Epic. GO started as a state-owned monopoly and established itself as a nationwide service provider of fixed access. During its years as a monopoly, GO built its duct network and established a strong customer base in the fixed segment, allowing it to benefit from economies of scale over a prolonged period of time. Although GO's market share has declined with the

liberalization of the market and the eventual loss of its monopoly status, it still holds a strong downstream position. Furthermore, while it has a significant customer-base, Melita's network relies in part on the duct access agreement it has with GO, which accounts to about 40% of all ducts managed by Melita.

Conversely, the challenger's inability to provide fibre-based services nationwide and its low market share could pose a threat to its viability, as some costs, such as marketing concerning the fixed telecom segment, may need to be incurred on a nationwide basis. This means that GO is more likely to have a lower average cost per additional unit due to its widespread coverage and strong customer base, whereas for Epic and new entrants to benefit from economies of scale, they must secure a larger market share, which will be a challenging feat, given the high cost of infrastructure investment and the established position of incumbent operator in the market.

The MCA therefore concludes that GO benefits from substantial economies of scale that are not available to entrants in the market.

5.3.7 Economies of scope

Economies of scope refer to the reduction in unit cost of a service as a result of it being produced along with another service by the same firm. When multiple services are provided by a company, it can save costs by utilizing common processes or technological infrastructures. Additionally, if a company operates in a large number of markets, it can spread its common costs over a wider range of services.

With reference to the local scenario, economies of scope are particularly strong for GO. This operator offers multiple services directly to the consumer, including fixed access and calls, TV and broadband access apart from mobile telephony. GO's horizontal integration benefits this operator's economies of scope, where the average costs of production are lower given that these are shared over a greater range of services.

On the other hand, Epic faces difficulties in attracting new customers to its fixed network as it only provides access to fixed broadband and fixed telephony services. Meanwhile, its own FTTH network just reaches 5.8% of all dwellings in Malta. To expand its customer base, Epic must further develop its FTTH network and possibly include new services, such as TV services. However, this would result in significant incremental investments (such as in the case of TV rights agreements, which entail high upfront fixed costs) and advertising costs that would be disproportionate to its initial small customer base. Moreover, further FTTH roll-out by Epic would be more efficient for the integration of fixed FTTH and mobile connectivity for this operator, given the significance of mobile offloading (which makes up 60% of all smartphone traffic). Nevertheless, there are obstacles for Epic to build a comprehensive fibre network, which is critical for the installation of high-capacity antennas for 4G and 5G. This is why Epic still uses microwave links for backhauling purposes of its mobile sites in Malta.

The MCA recognizes that Epic has a smaller market presence across a range of electronic communication services compared to GO and Melita and therefore it is unlikely that Epic will achieve the same level of economies of scope as GO and Melita.

GO's economies of scope, similar to this operator's economies of scale, make it difficult for new operators to enter the market. The MCA concludes that economies of scope therefore pose a significant barrier to market entry.

5.3.8 Absence of potential competition

Potential competition refers to the strength of competition from new players joining the market in the short term or existing operators being capable of challenging the incumbent operator GO. The mere threat of competition can prevent GO from raising prices above competitive levels, as doing so can lead to a margin squeeze and deter new entry. The stronger potential competition, the bigger is the constraint on GO's pricing behaviour.

The MCA considers that GO is in a unique position in the wholesale market under investigation, despite Epic's entry into the market and Melita's market presence. GO remains the only provider of nationwide physical and virtual access. Neither Melita nor Epic can replicate GO's ubiquitous status in this market. Epic's presence via own infrastructure is small, currently reaching 5.8% of all dwellings in Malta, and the maximum extent of its roll-out is expected to be 25%. Epic's acquisition of customers to support the business case for this partial deployment relies on access to VULA, which could be withdrawn if regulation is removed. For reasons already described at an earlier stage in this analysis, wireless solutions are unlikely to provide a competitive constraint for fixed broadband, due to limitations in capability.

Furthermore, GO faces minimal competition from Melita's duct network infrastructure, as Melita relies on GO for 40% of its duct network operations, which are reportedly indispensable for its provision of telecommunications services. As a result, access to GO's duct infrastructure is deemed vital for the ongoing operations of Melita.

Further to the above, the MCA has already identified a number of drawbacks when it comes to access to physical infrastructure owned by non-ECN providers (see sub-Section 4.3.1). ECN operators expressed caution when it comes to their reliance on this route for access. Given the identified drawbacks, the MCA considers that Melita cannot credibly threaten GO to switch, meaning that there is no direct constraint on GO in practice. Epic is also reportedly locked out from access to GO's physical infrastructure, with no proper alternative for such access. The MCA therefore concludes that there are no competitive direct constraints that could effectively constrain GO in the market under investigation.

The MCA also notes that fixed broadband is widely adopted in Malta, indicating that the market has reached a mature stage of development. This, alongside the prevalence of bundles, also impacts on the prospect for potential competition in the wholesale market under investigation, as new entrants would find it harder to build market share. Additionally, barriers to entry such

as economies of scale and scope, vertical integration and sunk costs make it more difficult for new entrants to establish a strong presence to challenge the incumbent. MCA concludes there are limited prospects for competition in the wholesale market for physical and virtual access, and that competition in this market is likely to be limited to FTTH (and not ducts) in a relatively small portion of the national territory.

5.3.9 Lack of countervailing buyer power

Countervailing buyer power can start at the retail level and continue at the wholesale level in a market.

Countervailing buyer power at the retail level refers to the bargaining power that retail customers have when purchasing fixed broadband services. This power can impact the prices and terms that retail customers pay for broadband services.

- In Malta, the prevalence of subscribers in a bundle limits the countervailing buyer power of retail customers. When customers purchase multiple services from the same provider, they may be less likely to switch providers, as doing so would require changing multiple services. This reduces the bargaining power of retail customers, as providers are aware that customers are less likely to switch.
- Additionally, when switching rates are low, providers may not have as much incentive to compete on price and terms, as customers are less likely to switch to a different provider.

At the wholesale level, large retail service providers with significant market power may have the ability to negotiate favourable terms and conditions with wholesale service providers. For example, a large retail service provider could in theory negotiate lower wholesale access prices, which could then be passed on to the end-consumer in the form of lower retail prices.

The MCA considers that, in wholesale access market under review, only GO is in a position to supply access on a nationwide scale, and access seekers relying on GO's network are not well-placed to negotiate lower charges.

- Melita may have a degree of buyer power as it acquires a significant and material proportion of its own self-supplied volumes from GO. Nonetheless, Melita's purchase is not significant in terms of GO's total volumes. Given that there are no alternatives to access via GO's physical infrastructure and also considering the high sunk costs associated with investments in ducts⁷³, Melita does not effectively pose a credible threat to switch or to self-supply, to an extent that would materially impact GO's profitability.

⁷³ It is also relevant to underline that, apart the significant sunk costs, any investment in ducts by operators is subject to a permitting process with Transport Malta. Hence, any such investment is constrained by the timeframes related to such a process and subservient to the priority for works established by Transport Malta. This situation applies for duct investments by any operator or ECN provider, not just Melita.

- Epic is in a weaker position to Melita's and is even less likely to pose a credible threat to GO. Epic is reportedly seeking access to GO's physical infrastructure, but no commercial agreement has been signed to date with GO. As is the case with Melita, access to physical infrastructure owned by non-ECN providers does not offer a viable alternative to Epic in its deployment plans. Meanwhile, its FTTH deployment is still in the initial stages and, on the basis of available information, targeted at 25% of all dwellings in Malta, which is a likely reflection of the high barriers facing potential / new entrants. Additionally, GO has an incentive to increase wholesale VULA prices absent regulation.

In theory, GO's ability to charge above the competitive level should be constrained by existing regulation. Thus, actual financial results may not indicate the levels of profitability that could be achieved if existing regulation were removed. Nonetheless, even in the presence of regulation, GO has been able to achieve healthy margins. Its EBITDA margin improved from 39% in 2020 to 41% in 2021⁷⁴. Melita's performance in this area has also been strong, but reliant nonetheless on access to GO's duct infrastructure. In a scenario where VULA regulation were removed, it seems likely that VULA access would be discontinued, or offered on less attractive terms. This would leave Epic with even less constraining effect on GO's pricing behaviour, as the number of Epic's subscribers on its own FTTH infrastructure is small (accounting to 0.5% of the relevant retail market⁷⁵).

The MCA therefore concludes that there is a lack of countervailing buyer power with respect to GO's physical and virtual access products, that removal of regulation could lead to an increase in wholesale prices or denial of access and that therefore, absent regulation, GO would have the capability to price above the competitive level.

5.4 Main conclusions from the SMP assessment

On the basis of the findings from the three-criteria test, the MCA concludes that wholesale market for the provision of virtual and physical access in Malta is susceptible to ex ante regulation. Based on the subsequent SMP assessment, the MCA has determined that GO has SMP in the market under investigation. GO's SMP designation is based on the below:

- GO's overall size and ubiquitous presence in the wholesale market for the provision of physical and virtual infrastructure access makes it very difficult for new operators / service providers to participate and expand in the market under investigation.

⁷⁴ A telecom operator's EBITDA is an important financial metric that measures its operating profitability before considering interest, taxes, depreciation, and amortization. It reflects the amount of money the company is generating from its operations and is a key measure of its financial health.

⁷⁵ Total number of retail broadband subscriptions (excluding FWA subscriptions) at the end of December 2022 amounted to 212,321 based on the following: (i) GO's copper VDSL at 43,583; (ii) GO's FTTH subscriptions at 55,569; (iii) Melita's cable DOCSIS 3.1 subscriptions at 109,995; (iv) Epic's own FTTH subscriptions at 1,083; (v) Epic's FTTH subscriptions based on VULA at 2,091.

- Given GO's nature and extent of vertically-integrated operations and economies of scale and scope, the wholesale market under investigation is not deemed to be effectively competitive and will not tend towards effective competition within the relevant time horizon.
- GO's operations and pricing behaviour - (especially in view of supplying access to alternative operators and access seekers) - are not sufficiently constrained in a market that lacks potential competition and countervailing buyer power.

It follows from the above that, in the absence of wholesale regulation, GO's SMP would give it the ability and incentive to engage in various forms of conduct that could distort downstream competition and/or harm consumers including:

- GO could refuse to supply access to its physical infrastructure to Epic, and thus restrict the ability of Epic to deploy its own FTTH network
- GO could also restrict access to VULA or provide access on less favourable terms compared to those obtained by its own downstream businesses; and
- GO could set excessive wholesale charges for access to its physical infrastructure and for VULA access or engage in price squeeze behaviour.

Ultimately, GO can act independently of customers and other network operators in its wholesale pricing structure for the wholesale market under investigation. Hence, the MCA will take ex ante regulatory measures to address these market shortcomings. More detail to the MCA's wholesale regulatory approach is presented in the following chapter.

6 Remedies

6.1 Applicable remedies

The key remedies relevant to addressing bottlenecks in wholesale physical and virtual access in Malta are VULA and PIA.

FTTx VULA has been mandated since 26 February 2016⁷⁶ and has been in use since August 2019, based on a wholesale access agreement that was signed by Epic⁷⁷ in October 2018. VULA is the main mechanism through which new entrant operators may currently offer broadband services in Malta, although take-up is still low.

Access to the SMP operator GO's ducts has been available to Melita since June 1992, based on a commercial agreement that was reached between the parties at a time when GO was still in public ownership. Although the commercial agreement was reciprocal, in practice access has only been requested to GO's ducts by Melita, as GO benefits from a ubiquitous **duct network**. Going forward it is proposed that GO should make available duct access as an SMP remedy so that other electronic communication providers can also take advantage of the incumbent physical infrastructure that was previously used only for GO's own purposes and by Melita.

As MCA notes that the same duct infrastructure can be used for transit and access segments, mobile backhaul and for the deployment of access lines to business as well as residential customers, and that GO and Melita already benefit from flexibility regarding the use of this infrastructure, no limitations are intended to be applied on the purpose of the use of ducts provided under the SMP obligations by other telecom operators.

Relevance of commercial agreements and commitments

The EECC provides⁷⁸ that when considering mandating SMP obligations, NRAs should take into account commercial agreements and co-operative arrangements that can contribute to VHCN deployment. This should include (but is not limited to) co-investment arrangements that meet the conditions of Article 76 as well as any commitments made under Article 79 EECC which the MCA may make binding. Although MCA provided time for negotiations between GO and Epic regarding access to VULA and PIA, no agreement has been reached between the parties. If any agreement is reached, and in particular if GO offers adequate commitments

⁷⁶ MCA (2016): Virtual Unbundled Access to Fibre-to-the-Home: Implementing the VULA Remedy, Response to Consultation and Decision, MCA/D/16-2513.

⁷⁷ Formerly Vodafone Malta Limited.

⁷⁸ Article 68 EECC.

regarding the terms of access to the NRA, MCA would consider the implications for the market analysis and imposition of remedies, but this is not the case, at this time.

Relevance of geographic segmentation of remedies

According to the draft Gigabit Recommendation⁷⁹ (and in line with the 2020 EC Relevant Market Recommendation)⁸⁰:

“Where geographic differences in the conditions of competition are insufficient, or not stable enough, to lead to the definition of separate geographic markets, NRAs should impose, where justified, differentiated remedies by geographic area within a given geographic market. The criteria that NRAs may use for geographic segmentation of remedies can be the same as those used for geographic segmentation of markets, the difference being one of degree or stability. They include in particular the number and characteristics of competing networks, distribution of and trends in market shares, prices and behavioural patterns. When NRAs differentiate remedies because differences in the conditions of competition are not stable enough to define separate geographic markets, they should consider updating the resulting segmentation periodically - and potentially annually within the period of validity of the market analysis in which the segmentation is applied. The conditions of such updates should be clearly defined in the market analysis itself, and should be based on the same criteria as those used for the initial geographic segmentation of remedies, thereby assuring maximum predictability and a level playing field.”

In Malta at this moment it would not be appropriate to apply differentiated remedies on a geographical basis, because the scope of infrastructure competition from Epic is currently very limited and the degree to which its footprint will expand within the course of the next market review is not guaranteed – in particular given its low market share that undermines the business case for deployment.

The Commission notes that:

“the conditions for the review of remedies should already be set in the original remedies decision accompanying the market analysis they are based on. These conditions should include in particular the timeframe of the review (for instance a yearly periodicity) and the precise criteria applied to define the areas where different remedies will apply. These criteria, as well as the different set of remedies applied in the various areas defined, should

⁷⁹ The draft Gigabit Recommendation was published by the European Commission on 23rd February 2023 and is intended to replace Commission Recommendations 2010/572/EU (on regulated access to NGAs) and 2013/466/EU (on consistent non-discrimination obligations and costing methodologies). The Gigabit Recommendation will provide guidance to NRAs on the conditions of access to telecom networks of operators with SMP. References to the draft Gigabit Recommendation are considered relevant, and cognisance will also be taken of the final version when adopted.

⁸⁰ <https://digital-strategy.ec.europa.eu/en/news/commission-updated-recommendation-relevant-markets>

remain constant if one or more reviews of remedies are foreseen or take place within the framework of the initial market analysis.”

According to the Commission, a geographic segmentation of remedies accompanied by a periodic review might be particularly relevant in Member States that observe a fast deployment of VHCNs.

The MCA is regularly monitoring the rollout of the VHCN and will continue to do so and adapt the remedies accordingly to take into account such rollouts on a forward-looking basis, while managing the uncertainty related to the timing and location of the rollouts.

To provide a level of certainty, in line with the 2020 EC Relevant Market Recommendation and the draft Gigabit Recommendation,⁸¹ the MCA proposes to establish criteria under which it would act to withdraw the VULA remedy from a geographic part of the market in the event that competition dynamics change. Specifically, the MCA proposes to define the conditions upon which certain areas⁸² within Malta could be considered to be competitively served on the basis of duct access.

In the case of Malta, the MCA proposes to collect data and conduct competitive assessments at the level of the administrative areas (LAUs) that are set out in Annex 2 of this Consultation Paper. This would seem to be an appropriate level of aggregation in view of the small scale of Malta and may also reflect from a geographical standpoint how operators target their coverage.

As regards the criteria to identify that an area is VHCN competitive, as an example, in Italy, municipalities are considered to be competitive for the purposes of establishing a geographic segmentation of remedies for VHCN when the following criteria are fulfilled (cumulatively):

- At least two alternative operators in addition to the SMP operator have a ready for service NGA coverage of $\geq 60\%$ and an overall coverage of $>75\%$;

⁸¹ <https://digital-strategy.ec.europa.eu/en/library/gigabit-connectivity-recommendation>

⁸² The detailed geographical analysis at wholesale level as a starting point is based on geographic units. which might follow the network topology or administrative boundaries, depending on national circumstances. In all cases, following the Commission’s practice, the geographic unit should be (a) of an appropriate size, i.e. small enough to avoid significant variations of competitive conditions within each unit but big enough to avoid a resource-intensive and burdensome micro-analysis that could lead to market fragmentation, (b) able to reflect the network structure of all relevant operators, and (c) have clear and stable boundaries over time. The geographical units with similar competitive conditions are then aggregated together in regions. The indicators to assess competitive conditions can be inter alia the networks footprint, the number of competing networks, their respective market shares, trends in market shares, localized or uniform pricing behaviour, characteristics of demands and customer switching and churn. See European Commission (2020): Commission Recommendation of 18.12.2020 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code, C(2020) 8750 final,

- The retail market share of NGA subscriptions of the SMP operator $\leq 40\%$
- The wholesale market share of active connections of the SMP operator $< 80\%$.

In Spain the regulator defined a WLA market which is national in scope but, as competitive conditions differed geographically, only imposed wholesale access to the FTTH network of the incumbent in non-competitive areas. The threshold for competitive municipalities (also called ultrafast broadband municipalities) used to assess the competition conditions in municipalities in the market analysis notified in 2021 were the following:

- \geq one local exchange with at least three operators reaching at least 20% coverage;
- Retail market share of Telefonica $\leq 50\%$.

The thresholds for deregulation of VULA in Spain, with only 20% coverage in a local exchange are low. However, this reflects the expectation that the alternative operators in Spain could rapidly expand their network, relying on their existing local loop unbundling customer-base. For Malta, as the scale of the existing entrant is very small and it could have relied on regulated VULA as a means to gain market share prior to the deployment of its own FTTH network (in the absence of any prior significant take-up of LLU), the MCA proposes to base the criteria on principles similar to those established in Italy. Specifically, MCA proposes that VULA could be deregulated in a given region if (cumulatively):

- At least two alternative operators in addition to the SMP operator have an individual ready for service NGA coverage of $\geq 60\%$ and there is an overall NGA coverage of $> 75\%$; and
- The retail market share of NGA subscriptions of the SMP operator $\leq 40\%$.

A threshold of 40% retail market share for the SMP operator is needed (as in Italy) to provide an indication that alternative operators have gained sufficient market share to make deployment of an alternative network economically viable. It is not, however, necessary to include a condition regarding wholesale market share of the SMP operator, as take-up of wholesale access is limited. These criteria are proposed to apply for the deregulation of FTTx VULA.

As regards duct access, as explained in the market analysis, GO is the only operator with a nationwide physical infrastructure network aimed for the provision of retail telecom services. Melita and Epic have some ducts, but these are minimal compared to GO's infrastructure. Melita uses an element of GO's ducts for around 40% of its network requirements, but Epic does not have similar access. It is not to be expected that the physical infrastructure of GO will be replicated. As a result, the competitive conditions for access to ducts are uniform across the country. The duct access obligation should thus apply nationwide.

6.2 Conditions for VULA

In 2016, the MCA mandated on GO technical and economic requirements for the provision of VULA. Rules elaborating the non-discrimination obligation were published in December 2018.

6.2.1 Technical characteristics of VULA

The Staff Working Document of 2020 on the relevant market recommendation of 2018 prescribes that:

“VULA should as far as possible be functionally equivalent to physical unbundling. In technical terms this means that access should, (i) in principle occur locally; (ii) be generic and provide access seekers with a service-agnostic transmission capacity which is uncontended in practice; and (iii) provide access seekers with sufficient control over the transmission network to allow for product differentiation and innovation similar to LLU.”⁸³

Further details on the point of hand over, generic access, access seeker’s control, migration and pricing of VULA have been developed in the context of a State-aid evaluation by the EU Commission in 2018, for which DG Competition commissioned expert advice from WIK-Consult.⁸⁴ This report identified ‘best practice’ technical specifications regarding VULA products based on the principles established in the EC Relevant Market Recommendation and a detailed analysis of VULA offers in Austria, Denmark and the UK.

The MCA is considering to make certain updates to the requirements regarding the VULA specification in Malta, based on this best practice report, which was not available at the time when the VULA product was first mandated. This best practice report addresses principles that include:

- Measures to enhance differentiation;
- The number of VLANs per ONT (end user);
- The length of the message transfer unit (Ethernet Frame Length);
- The method of bandwidth control and traffic prioritization;
- The method of accessing the order status and fault information of its end-customer’s connections.

⁸³ Commission Staff Working Document explanatory - note accompanying the document Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code - SWD(2020) 337 final. Paragraph 4.1.3.

⁸⁴ WIK Consult for the European Commission, DG Competition, 2018. Assessment of the technicalities of VULA products in the context of a State aid investigation, Expert opinion, Version 2.

Pricing principles in relation to the ERT are discussed later. However, as observed in the best practice report, wholesale VULA prices should be set in a way that allows access seekers flexibility over how they set retail prices.

6.2.2 Non-discrimination obligation

The MCA proposes to maintain the non-discrimination obligation regarding the provision of VULA. Further details are provided below.

6.2.2.1 Eol vs EoO

According to the draft Gigabit Recommendation it is necessary to assess the proportionality of using the Eol or EoO approach for non-discrimination:

“the NRA should take into account, in particular:

- *incremental costs and compliance delays resulting from the application of Eol or EoO, including the costs of monitoring non-discrimination;*
- *the potentially linked non-imposition of regulated wholesale access prices on VHCNs;*
- *the potentially positive effect the application of strict non-discrimination in the form of Eol or EoO might have on investment in VHCNs, innovation and competition;*
- *any voluntary commitment by the SMP operator to provide wholesale inputs to access seekers on an Eol or EoO basis, as long as such a voluntary offer meets the conditions set out in this Recommendation;*
- *the number and size of the SMP operator(s).”*

The non-discrimination obligation currently applying to VULA is based on the EoO principle. In the previous market review, the MCA assessed in detail the advantages and disadvantages of imposing the Eol or EoO principle to the VULA remedy and reached the conclusion that adopting the Eol principle would be too costly and cumbersome to implement and would result in a disproportionate obligation on the SMP operator. At the time, MCA noted that FTTH roll-out was in its early stages and demand for high speed broadband appeared to be limited. The market has since matured in the intervening years, with near complete FTTC coverage and FTTH coverage reaching two thirds of dwellings as of Q1 2023. Moreover, GO has been migrating its existing customers onto the new network when deployed. Nonetheless, MCA considers that an EoO approach for VULA remains valid, in particular for reasons of proportionality because of the small scale of the Maltese market, and because further infrastructure competition may emerge as a result of Epic’s deployment, which could mean that VULA can be deregulated in certain areas. Further details about the application of the EoO are addressed in the following sections.

6.2.2.2 Technical replicability

The EC Recommendation on Non-Discrimination and Cost Methodologies and draft Gigabit Recommendation note that in cases where strict non-discrimination based on EoI is not fully implemented, a technical replicability test should be imposed. Specifically, NRAs should ensure that internal and third-party access seekers have access to the same technical and commercial information on the relevant regulated wholesale input, including information on new inputs or changes to existing regulated inputs. In addition to considering whether technical replicability is possible, the NRA should take into account:

- Whether the wholesale input(s) for ordering delivery and repair necessary for an efficient operator to develop or adapt its own systems and processes in order to offer competitive new retail services are made available to access seekers; and
- The availability of corresponding SLAs and KPIs.

The test can be conducted either by the NRA or SMP operator (with validation from the NRA). Information to conduct the technical replicability test must be made available sufficiently in advance of the SMP operator's retail launch.

Based on the MCA's 2018 Decision, technical replicability is ensured by requiring GO to provide the VULA connectivity product from the handover point located at GO's operational site/s to the network termination unit ('NTU') located at the customer premises.

Furthermore, the MCA has established the interface technologies to be used at the VULA connectivity points (based on de facto industry standards).⁸⁵

In addition to the active elements mentioned above, GO must also provide a service agnostic virtual link to the access seeker which has the same parameters as it offers to its own retail arm.

GO is required to publish a Reference Offer which clearly spells out Terms and Conditions including the technical parameters made available to access seekers.

⁸⁵ "The provision of access shall be over Ethernet using PON in the distribution access network (including ingress inside the premises) while wholesale access will be provided using the available Layer 2 Ethernet solutions. Due to the nature of such a service, wholesale access at the handover point will be provided over 10G links, with a floor of 1G which can eventually be upgraded in increments of 1G according to the demands of the access seeker. Fibre network termination shall be carried out using 802.1Q compliant network termination units. This should provide the OAO with a wide selection of 802.1Q compliant home gateways, according to the services being offered, and eliminating the need for modem white/black lists." MCA (2016): VULA decision.

The MCA previously introduced compliance monitoring through KPIs, and associated SLAs and SLGs. These were specified in the MCA decision of December 2018 and updated in February 2019⁸⁶.

GO is required to report KPIs to the MCA on the following elements on a quarterly basis:

- Order validation and installation;
- Termination of a VULA FTTP connection;
- Fault Reporting and Fault Resolution of a service falling under the VULA provisioning;
- Other services provided under the VULA offer (the average FTTH total operator service uptime for the handover point).

The MCA Decision defined the SLAs and SLGs for the KPIs indicated above, and these are included in the GO VULA Reference Offer.⁸⁷

Annex I of the draft Gigabit Recommendation states that:

- *“KPIs should measure performance in relation to at least the following key elements in the provision of regulated wholesale services:*
 - (a) ordering process;*
 - (b) Service provision;*
 - (c) quality of service, including faults;*
 - (d) fault repair times; and*
 - (e) migration between different regulated wholesale inputs (excluding one-off bulk migrations).*
- *National regulatory authorities (‘NRAs’) should impose KPIs for each of the key elements listed in point 1 in the provision of regulated wholesale services. KPIs should allow for comparison between services provided internally to the downstream retail arm, of the significant market power (‘SMP’) operator and services provided externally to third-party access seekers.*
- *The specific details of KPIs imposed by the NRA in accordance with point 2 of this Annex can be agreed between the SMP operator and third-party access seekers*
- *In determining the KPIs, the NRA should take account of existing performance measurements, even when only used by the SMP operator for internal purposes.*
- *The process of monitoring KPIs should be fully transparent. To ensure that potentially discriminatory behaviour in the provision of regulated wholesale services is discovered early, and to ensure transparency, NRAs should publish KPIs at least every quarter, in*

⁸⁶ See MCA (2018, updated in 2019): Virtual Unbundled Access to Fibre-to-the-Home: Enhancing the Non-Discrimination Obligation.

⁸⁷ Annex E3

an appropriate form either on the NRA's website or on the website of an independent third party designated by the NRA.

- *NRAs should ensure that the KPIs are regularly audited either by the NRA itself or by an independent auditor NRAs should require the SMP operator to implement corresponding SLAs alongside KPIs.*
- *NRAs should require the SMP operator to provide corresponding SLGs in case of a breach of the SLAs.*
- *NRAs should ensure that penalty payments for failure to-fulfil SLGs are, in principle, made without undue delay and follow a pre-determined process for payment and billing. The level of such penalties should be sufficiently dissuasive to ensure that the SMP operator complies with its delivery obligations.*
- *Penalties for failure to meet KPIs should be proportional, but should be high enough to be dissuasive. To determine whether penalty is sufficiently dissuasive, NRAs should consider whether a breach of wholesale obligations by the SMP operator would cause the alternative operator that uses the wholesale access product problems at retail level. If so, the penalty should be high enough to cover the retail indemnity.*
- *NRAs should monitor any delays in the payment of penalties so as to ensure their dissuasive effect.”*

The current SLAs, SLGs and associated KPIs cover provisioning and repairs and are in line with the draft Gigabit Recommendation, and MCA has not received formal complaints regarding service levels. However, in order to provide additional transparency and in particular to enable third parties to check that there is no discrimination in treatment, in line with the Recommendation, the MCA also plans to require GO to publish KPIs, at appropriate intervals.

6.2.2.3 Economic replicability test

According to the draft Gigabit Recommendation:

39. *“The NRA should not impose or maintain regulated wholesale access prices on VHCN wholesale inputs, pursuant to Article 74 of Directive (EU) 2018/1972, in instances where – as part of the same measure – the NRA imposes on the SMP operator non-discrimination obligations concerning VHCN wholesale inputs, pursuant to Article 70 of Directive (EU) 2018/1972, that are consistent with all of the following:*

- (a) EoI, or, EoO where the NRA has established that EoI obligations would be disproportionate and that EoO obligations would be sufficient to ensure effective non-discrimination;*
- (b) obligations relating to technical replicability and appropriate monitoring mechanisms, in accordance with points 19 to 25 of this Recommendation when EoI is not fully implemented;*
- (c) obligations relating to the economic replicability test as recommended in points 43 and 44 of this Recommendation;*
- (d) that there is a demonstrable retail price constraint resulting from one of the following:*

- (i) infrastructure-based competition, either from the provision of retail services over one or more alternative infrastructures that are not controlled by the SMP operator; or*
- (ii) from emerging or prospective infrastructure-based competition, in areas where the deployment of alternative infrastructures has started and is expected to cover a significant part of the area within the market review period, or*
- (iii) in areas where there is clear evidence to show that the deployment of alternative networks is realistic and viable, in particular where such infrastructure competition is ensured by effective and non-discriminatory access to civil-engineering following the conditions set out in points 31 to 38 of this Recommendation; or, in the absence of a demonstrable retail price constraint resulting from infrastructure-based competition,*
- (iv) a regulated anchor, defined by the NRA in accordance with paragraphs 41 and 42, and subject to a cost-oriented price control obligation in accordance with the costing methodology specified in points 45 to 56 of this Recommendation.”*

The conditions for refraining from applying regulated wholesale prices to VULA are met in the Maltese market. In particular, obligations relating to EoO and the technical replicability test are proposed to be maintained, and retail prices are constrained to some degree by the presence of a cable operator. The prospect of further infrastructure competition from Epic, supported by the regulatory measures proposed in this consultation, should provide a further constraint. However, as previously noted, in the absence of regulation, GO is not constrained in relation to its wholesale pricing behaviour.

MCA proposes to address this through maintaining an obligation to conduct an economic replicability test in relation to VULA, in line with the provisions of the draft Gigabit Recommendation.

Based on the 2018 MCA Decision, the ERT performed in Malta is currently based on

- The Equally Efficient Operator ('EEO') approach taking into account GO's subscriber base, costs, revenues and other parameters;
- A LR(A)IC+ cost standard to assess GO's costs particularly sunk costs; and
- A margin squeeze test on the aggregate set of flagship products and additional separate ERT on standalone residential and business product falling under the flagship criteria.

The costs - considered relevant for the MCA - are the following:

- Wholesale costs: consisting of the backhaul costs incurred by the access seeker to interconnect with GO's point of interconnection and the VULA wholesale charges made available by GO to the access seeker;
- Network costs: these comprise of the network components required by the retail arm to operate and include platforms, servers and systems;
- Commercial costs: these consist of customer relationship management activities, content costs relating to IPTV as well as voice interconnection related costs;

- Promotions and /or temporary discounts are taken into account in the ERT model as cost.

The MCA applies a five-year period for the average customer lifetime.

GO has an obligation to carry out an annual re-run and validation to the ER Model and has an obligation to provide details of the costs and revenues necessary to demonstrate its compliance with the wholesale price control obligation.

MCA notes that the ERT as currently applied was defined when FTTH was at an early phase of deployment and take-up was very uncertain. Since the 2013 market review and the 2016 VULA Decision, FTTH deployment has advanced while take-up has increased on the incumbent network, however the take-up of VULA has remained low, and the sole entrant making use of it has very limited scale in the fixed broadband market when compared with the incumbent. MCA therefore considers that there is scope to review certain principles underlying the ERT to ensure that it provides an opportunity for entrants to enter and expand based on the market situation.

Specifically, the MCA proposes to make adjustments to the EEO downstream cost standard to reflect more realistic expectations in the context of current market realities, regarding the market share achievable by an efficient entrant. This is in line with recital 65 of the NDCM Recommendation⁸⁸ and Annex III of the draft Gigabit Recommendation which notes that

“Where market entry or expansion has been impeded in the past (as shown for example, by past behavioural findings) or where very low numbers of lines and a significantly limited geographic reach as compared to the SMP operator’s VHCN indicate that objective economic conditions do not favour the acquisition of scale by alternative operators, NRAs may, taking into account the level of competition on the retail market and competitive dynamics as identified in the market analysis, make adjustments for scale to the SMP operator’s downstream costs in order to ensure that economic replicability is a realistic prospect. In such cases, the reasonably efficient scale identified by the NRA should not go beyond that of a market structure with a sufficient number of qualifying operators to ensure effective competition, bearing in mind also competition from other platforms.”

The relevant market share in this context should take into account the current position of the entrant (which has a very low retail market share) and the presence of a cable network, which may limit its potential to rapidly gain market share. MCA plans to adjust the market share so that it more closely reflects market realities and the market share that could reasonably be achieved in a three player VHCN market in which there are two established operators.

⁸⁸ Recital 65 of the Recommendation stipulates that “in such cases, the reasonably efficient scale identified by the NRA should not go beyond that of a market structure with a sufficient number of qualifying operators to ensure effective competition.”

The MCA plans that retail costs will also be subject to review to ensure that they reflect the costs that would be incurred by an efficient operator in a competitive market in the above context.

Another aspect that MCA plans to review is the customer lifetime. This is currently set at 5 years, which may reflect the current situation, but is unlikely to be reflective of customer lifetimes in a competitive market characterised by more intense price competition and switching between three operators.

MCA plans to request data from Melita and Epic in addition to GO regarding market share expectations, costs and customer lifetimes and conduct a benchmark in countries with more dynamic competition and switching behaviour.

As bundles are an important feature of the Maltese market and a key source of advantage for GO, it will also continue to be necessary to ensure that bundles (including bundles involving mobile) are adequately handled in the context of the ERT.

Different approaches can be taken, and as noted in the Annex III some NRAs have included revenues and costs from non-regulated bundled elements (such as mobile components). MCA plans to maintain the current approach of excluding revenues and costs for non-regulated elements in the bundle. However, it plans to clarify the approach to be taken.

Specifically, the MCA is considering updating rules for determining the deductions from the price of the retail bundles in cases where certain non-regulated components are non-optional and thus part of a standard (flagship) product bundle. The MCA is also considering updating rules for determining the revenue, and for allocating discounts, in cases where the non-regulated components can be added to the product bundle on an optional basis and customers can decide whether they would like to include those components.

The current approach whereby the ERT is conducted at aggregate level and, in addition, product-by-product for each identified flagship broadband product, remains relevant, but the procedure for identifying flagship products and triggers for an ERT test is planned to be reviewed to ensure that they remain fit for purpose. On this point, the draft Gigabit Recommendation notes that the NRA can trigger the procedure on its own initiative or at the request of third parties at any time, but this should be no later than 3 months after the launch of the relevant retail product and should be concluded within 4 months of starting the procedure. Reviews which are conducted beyond the aggregate assessment should reflect changes in flagship products or updated information.

The MCA also plans to provide greater stability in the wholesale pricing for VULA to ensure that there is adequate predictability for entrants to build a business case. Specifically, the MCA requires that wholesale prices for VULA are established at a level which is “fair and reasonable”, which would be interpreted to mean at a level which does not result in a margin squeeze as assessed under the revised ERT. Once the level of wholesale VULA prices is set, the MCA proposes that this will not be subject to fluctuations based on GO’s pricing decisions

in the retail market. Rather, GO will have an obligation to ensure that its pricing behaviour does not result in a margin squeeze. If GO reduces its retail prices of so-called flagship products in a way that would lead to a margin squeeze according to the ERT, GO would have the option either to raise the retail price or reduce the wholesale price to eliminate the margin squeeze. While the MCA pursues its review of the ERT parameters and approach to ensuring compliance, MCA considers it reasonable to set a ceiling for the prices offered for VULA at current levels.

This is consistent with practice in other countries such as Belgium, the Netherlands, Ireland, UK and Norway. In these jurisdictions NRAs have typically either used a previously set (cost oriented) price as the starting point for the VULA access price or derived a price for VULA based on a first run of the ERT. The wholesale price thereafter is kept stable, with changes made to this price (reductions) in cases where the SMP operator has chosen to maintain the retail price at a level which would otherwise create a margin squeeze.

MCA proposes the following process for the application of the ERT, as experience from other markets suggests that this best strikes a balance between the required administrative work, predictability for all parties, and ability to capture market changes while still ensuring a sufficient margin for the access seeker.

- The ERT review will be conducted by the NRA each time a new FTTX VULA price is determined and/or a new wholesale product is introduced.
- An ERT review at product and aggregate level by the NRA is planned periodically (every year) for each relevant wholesale service.
- At any time, the NRA can trigger a test procedure, but no later than three months after the launch of a relevant (flagship) retail product. Thus, in case there is strong evidence that a new flagship product is launched, the MCA plans that the test would be conducted within three months.
- Additional ERT's may be triggered by the NRA under reasonable and proportionate circumstances. This may be the case if competitors make justified requests following major market changes related to costs, prices, and customer distribution which would lead to different results compared to the prior ex-ante ERT.

6.3 Conditions for physical infrastructure access

6.3.1 Ensuring equivalence of access to physical infrastructure

According to the draft Gigabit Recommendation:

“17. When considering the application of Eol, NRAs should first consider introducing it at the deepest possible network level at which competition will be effective and sustainable in the long term. Where civil-engineering infrastructure access is imposed pursuant to points 31 to 38, NRAs should carefully consider the benefits and costs of implementing Eol for

civil-engineering infrastructure, taking into account in particular how such a measure could contribute to enabling infrastructure-based competition.

18. NRAs should ensure that when a non-discrimination obligation is imposed, access seekers can use the relevant systems and processes with the same degree of reliability and performance as the SMP operator's own downstream retail arm."

According to para 35 of the draft Gigabit Recommendation NRAs should ensure that access to existing civil-engineering infrastructure is provided in accordance with the principles set out in Annex II of the draft Gigabit Recommendation, where the Commission explains that:

"(1) Access to the civil-engineering infrastructure of the SMP operator can be a key input for the deployment of VHCNs. To create a level playing field among other market participants and the SMP operator, it is important that such access is provided on a strictly equivalent basis. NRAs should require that the SMP operator provides access to its civil engineering infrastructure to third-party access seekers under the same conditions as for internal access seekers. In particular, the SMP operator should share all necessary information on infrastructure characteristics, and apply, in principle the same procedures for access ordering and provisioning. Reference offers, KPIs, SLAs and SLGs are instrumental in ensuring a proper application of the principle of equivalence. Conversely, it is important that any asymmetric knowledge the SMP operator possesses on the rollout plans of third-party access seekers is not used by the SMP operator itself to gain any commercial advantage."

The MCA considers that it is relevant to impose a **non-discrimination remedy**. This should be interpreted to mean that as a baseline the conditions for the supply of duct access in the existing GO – Melita agreement should apply to Epic as well as Melita, and should also be inferred when GO makes use of its own ducts to support downstream infrastructure. In this context, the MCA envisages that internal transfers relating to the charges for duct access should be reflected in GO's preparation of separated accounts.

As regards the enforcement of non-price aspects of the non-discrimination remedy, it is noted that EoI is applied for duct access in countries such as France, Portugal and Spain with the support of KPIs.⁸⁹ It is also relevant to note that duct access has been used in practice by Melita suggesting that processes function, at least to a certain extent. Due to the small scale of the market, and uncertainty around the scale of future use of the duct access remedy, MCA proposes in the first instance to rely on EoO coupled with SLAs, SLGs and KPIs for duct access. An EoI remedy could be considered in future, if demand for duct access is extensive and EoO proves to be insufficient to ensure the effective enforcement of the remedy.

⁸⁹ <https://www.wik.org/fileadmin/Studien/2017/best-practice-passive-infrastructure-access.pdf>

MCA proposes to require GO to provide a Reference Offer for duct access within 3 months of receiving a request. This is consistent with the draft Gigabit Recommendation para 36. MCA considers that a period of 3 months should be feasible, as duct access is already operationalised and an agreement is in place between GO and Melita. The existing agreement could form the basis for this Reference Offer, for example as regards price. However, additional detail should be included in the Reference Offer regarding the operational processes for making use of duct access.

In this context, such processes would deal with aspects such as conducting surveys, decongestion and augmentation works, and processes to install and repair cables.⁹⁰

The Reference Offer may also include provisions regarding the utilisation and maximisation of space within the ducts. For example, best practice from countries such as Spain and Portugal suggests that, in order to maximise available space, the owners of cables which are not in use and not reasonably required for redundancy or future expansion (typically legacy copper and coax cables) should be liable for the removal of such cables and associated costs.

If these principles of autonomy for the access seeker are followed, SLAs applying to the incumbent can be kept to a minimum. However, GO should be required to provide the following SLAs, with the values agreed following consultation with access seekers and review by the MCA:

- availability of information regarding the location of ducts and associated facilities, deadlines for provision of any additional information and deadlines to correct any inaccurate information;
- deadline for approval of instalment/augmentation plans by access seeker;
- deadlines for removal of unused cables or decongestion (where not conducted by access seeker);
- deadlines for responding to an accompanying request (only where access provider attendance necessary);
- deadlines for repairing broken conduits or poles.

Compensation (SLGs) should be provided for a lack of availability of information and failure to meet the above SLAs.

Contractual requirements and associated compensation should also be provided for the access seeker, such as to make use of accredited staff, to take due care and provide timely

⁹⁰ Godlovitch, I.; Plückebaum, T.; Held, C.; Kiesewetter, W.; Sabeva, D. and Strube Martins, S. (2017): Best practice for passive infrastructure access, https://www.wik.org/fileadmin/files/_migrated/news_files/best-practice-passive-infrastructure-access.pdf (last accessed on 03.04.2023).

notice and/or reporting of works. Deadlines are also needed for the completion of installation and filing of the final deployment report.

In order to assess the effectiveness of these measures, and in line with KPIs required in Spain, which also pursues an EoO approach for duct access, MCA plans to require GO to report annually to MCA on the following output metrics:

- application process (number of notifications of invest to use duct access, number of responses by GO and in this case share of viable / not viable requests);
- provisioning (km of passive elements (ducts, subducts) and number of manholes or other relevant structures, occupied by access seeker);
- performance against SLAs

These requirements are in line with the draft Gigabit Recommendation which suggests that KPIs should be provided on the following areas:

- *“measurements of reply delays to requests for information on the availability of certain infrastructure elements, including ducts, poles, other physical assets (e.g. manholes), or distribution points;*
- *measurements of reply to requests on the feasibility of using certain infrastructure elements;*
- *responsiveness in handling requests for access to and use of certain infrastructure elements;*
- *responsiveness for fault resolution processes”*

6.3.2 Transparency

The availability of information on the civil-infrastructure and the distribution points is a key element of a PIA obligation. This is reflected in the annex of the draft Gigabit Recommendation which states that:

- (2) *“The SMP operator should provide third-party access seekers with the same level of information on its civil-engineering infrastructure and distribution points as is available internally. This information should cover the organisation of the civil-engineering infrastructure as well as the technical characteristics of the different elements included in the infrastructure. The geographical location of those elements, including ducts, poles and other physical assets (e.g. maintenance chambers) should be provided, as should the available space in ducts and, where feasible, on poles. The geographical location of distribution points and a list of connected buildings should also be provided.*
- (3) *The SMP operator should specify all rules and technical conditions for access to and use of all elements of its civil-engineering infrastructure and of distribution points. The same rules and conditions should apply to third-party access seekers as to internal access seekers.*

- (4) *The SMP operator should provide effective information tools, such as easily accessible directories, data bases or web portals. Such information should be regularly updated to take account of infrastructure developments and new information, in particular on fibre deployment projects carried out by the SMP operator or by other access seekers. Where the relevant tool(s) contain(s) confidential information, the NRA should ensure that this circumstance does not unduly delay the provision by the SMP operator of information on its civil-engineering infrastructure and distribution points.*
- (5) *When other legal provisions require the SMP operator to provide all or some of the above information via or as part of a directory, database or web portal managed by a third party, the NRA should assess whether the transparency requirements are still met. Factors for the NRA to consider include: (i) the data the SMP operator is required to provide; (ii) the level of detail and the regularity of updates; and (iii) the conditions under which the information in the directory, data base or web portal managed by a third-party is available for access seekers. If the transparency recommendations provided for by this Section are already fulfilled through other legal provisions, the NRA should consider whether it is appropriate to rely on those legal provisions alone.*
- (6) *If the NRA deems it necessary to impose on the SMP operator a transparency obligation as regards its civil-engineering infrastructure, it should further consider whether it is appropriate to require the information to be presented in a relevant directory, data base or web portal managed by a third-party. The NRA should apply a consistent approach when imposing the transparency obligation so as not to place unnecessary administrative burdens on the SMP operator and on access seekers.”*

The MCA plans to require GO, in the context of the SMP obligation for duct access to make available a map of all duct and associated infrastructure (such as manholes). Supplementary requests for information should be handled within a deadline of 2 months from receipt of the request. The information should be up-to-date and accurate, use standardised formats and, to the extent possible indicate the availability of spare capacity (highlighting total capacity and the % currently unused). Any errors in the information should be rectified as soon as possible. As noted in the previous section, a failure to make available accurate information on a timely basis may also be subject to penalties. If GO can demonstrate that its compliance with requirements under the Broadband Cost Reduction Directive regarding the provision of information on ducts and associated facilities meets these specifications including the availability of an up-to-date map, then this could also be considered to comply with its SMP obligations.

When the wholesale arm of the SMP operator has prior knowledge of access seekers' deployment plans, NRAs should ensure such information is not shared with the retail arm of the SMP operator, so as to prevent the SMP operator from gaining an undue competitive advantage. The MCA proposes to require GO to provide for the confidential treatment of information regarding planned use of duct access and to ensure that it is not shared with personnel responsible for decisions regarding GO's FTTH deployment (Chinese walls). In consequence, the personnel involved in the retail activities of GO should not participate in GO's company structures responsible, directly or indirectly, for managing access to wholesale inputs. The MCA requires GO to provide an annual report documenting (i) its practices to

prevent the sharing of sensitive information between its wholesale and retail arms; (ii) any allegations of violation, and any (iii) corrective actions that it has taken.

6.3.3 Approach to price regulation

Concerning the approach to wholesale prices of PIA, the draft Gigabit Recommendation specifies that:

“45. To set the prices for wholesale access products provided over copper networks and VHCN, as well as the prices for access to civil-engineering infrastructure, where cost orientation is appropriate, proportionate and justified pursuant to Articles 67(4) and 68(4) of Directive (EU) 2018/1972, NRAs should adopt a bottom-up, long-run, incremental cost-plus (BU LRIC +) costing methodology to set the regulated prices for wholesale access products provided over copper networks and VHCN as well as the prices for access to civil-engineering infrastructure. This methodology should include a bottom-up modelling approach using LRIC as the cost model and with the addition of a mark-up for the recovery of common costs.

49. Reusable legacy civil-engineering assets should not be valued on the basis of replacement costs. In principle, NRAs should value reusable legacy civil-engineering assets and their corresponding RAB on the basis of the indexation method. Specifically, NRAs should set the RAB for that type of asset at the regulatory accounting value net of accumulated depreciation at the time of calculation, indexed by an appropriate price index, such as the RPI. NRAs should examine the accounts of the SMP operator where available to determine whether they are sufficiently reliable as a basis to reconstruct the regulatory accounting value. They should otherwise conduct a valuation on the basis of a benchmark of best practices in comparable Member States. NRAs should not include reusable legacy civil-engineering assets that are fully depreciated but still in use.

50. When applying the method for asset valuation set out in point 49, NRAs should lock-in the RAB corresponding to the reusable legacy civil-engineering assets and then roll it forward from one regulatory period to the next.

51. Where NRAs can establish that the indexation method would not be appropriate, they may decide to value reusable legacy civil-engineering assets and their corresponding RAB on the basis of current costs adjusted for depreciation over the lifetime of the assets. NRAs should not take into account the value of reusable legacy civil engineering assets that are fully depreciated but still in use and should also ensure that the asset-valuation method that is used reflects the fact that civil-infrastructure assets would in general not be replicated in the competitive process.

52. NRAs should set the lifetime of the civil-engineering assets at a duration corresponding to both the expected period of time during which the asset is useful and the demand profile. This is usually not less than 40 years for ducts.”

Against the background that access to GO's ducts already is provided to Melita, and that GO is subject to a non-discrimination obligation linked to its SMP designation, the MCA presumes that the price offered to other alternative operators requesting access to ducts will be the same as that already made available to Melita. This price should also be inferred in cases where GO makes use of its own ducts.

Additionally, based on the provisions in the NGA Recommendation and in the draft Gigabit Recommendation, should the MCA consider it appropriate it will also be ready to require prices for duct access and associated facilities to be cost-oriented and for the costs to reflect depreciation. In that case, MCA will consider whether the charges being applied are cost oriented. Prior to taking such a step, the MCA will assess the effectiveness of the non-discrimination approach to pricing, and also consider reasoned requests, including relevant costing information from an access seeker, and possibly refer to any available benchmarks. If it decides to calculate costs in the future, MCA will apply the principles in the Gigabit Recommendation, as noted above.

6.3.4 In-building wiring

A WIK study on best practices for passive infrastructure access⁹¹ has highlighted that sharing of in-building wiring (in-building fibre) has received considerable attention in countries which have sought to promote to infrastructure competition in very high capacity broadband and has been important in reducing switching costs and barriers. In-building cabling in certain categories of buildings, in particular single-dwelling buildings, in Malta is typically controlled by the building owner, and thus it is not relevant from the perspective of SMP regulation.

However, SMP regulation could be relevant in obtaining access to in-building fibre cabling deployed and controlled by GO to other building categories than those mentioned above. The MCA is ready to intervene under SMP regulation (or if relevant under the symmetric regulation provided for in Article 61 of the EECC) in the event that there is demand for access to such in-building cabling, and reasonable access conditions are not provided.

6.4 Conclusion on Remedies

The MCA considers that the proposed VULA and PIA remedies described in the foregoing sections address the potential shortcomings arising as a result of SMP held by GO.

In summary FTTx VULA remains a key mechanism for increased competition in the provision of broadband services in Malta, and the MCA is proposing to update the remedy to reflect developments in regulatory practices and market realities. The MCA is also considering mandating duct access as an SMP remedy so that other electronic communication providers can also take advantage of the incumbent physical infrastructure.

⁹¹ <https://www.wik.org/fileadmin/Studien/2017/best-practice-passive-infrastructure-access.pdf>

The MCA provided time for negotiations between GO and Epic regarding access to VULA and PIA, and no agreement has so far been reached between the parties. If any agreement is reached, and in particular if GO offers adequate commitments regarding the terms of access to the NRA, MCA would consider the implications for the market analysis and imposition of remedies, but this is not the case, at this time.

7 Consultation framework

The MCA invites comments from interested parties on this consultation document.

For the sake of clarity and ease of understanding, the MCA encourages stakeholders to structure their comments in order and in line with the section and sub-section numbers used throughout this document.

In accordance with Article 4A of the Malta Communications Authority Act [Cap 418 of the Laws of Malta], the Authority welcomes written comments and representations from interested parties and stakeholders during the national consultation period which shall run from the 28th April 2023 to the 16th June 2023.

The Authority appreciates that respondents may provide confidential information in their feedback to this consultation document. This information is to be included in a separate annex and should be clearly marked as confidential. Respondents are encouraged to avoid confidential markings wherever possible. Respondents are also requested to state the reasons why the information should be treated as confidential. The Authority will take the necessary steps to protect the confidentiality of all such material as soon as it is received at the MCA offices in accordance with the MCA's confidentiality guidelines and procedures.

For the sake of openness and transparency, the MCA will publish a list of respondents to this consultation. All responses should be submitted to the Authority by not later than 12.00hrs on 16th June 2023 and addressed as per below:

Kevin Caruana
Senior Manager, Market Review
Malta Communications Authority
Valletta Waterfront,
Pinto Wharf
Floriana, FRN 1913 Malta

Contact details: Tel: +356 21 336 840 Fax: +356 21 336 846
Email: kevin.r.caruana@mca.org.mt

Annex 1 - Viability of infrastructure based competition

WIK-Consult carried out a study in July 2021 to the MCA entitled ‘Market potential and regulatory options to support VHC infrastructure competition in Malta’, whereby it also assessed the scope for infrastructure competition in Malta. More specifically, WIK evaluated the extent at which it is viable to deploy FTTH across the Maltese territory and thus, whether it may be possible in theory to achieve infrastructure competition through the end-to-end duplication of networks by Go, Melita and potentially Epic.

The methodology used by WIK-Consult in its cost and viability modelling takes into account whether FTTH deployment is viable on the basis of the cost per household and the ARPU, upon which it would be possible to determine the market penetration (percentage of households served) required to render the business case positive. WIK-Consult refers to the market penetration needed for a positive business case as the “critical market share”, which would indicate how many parallel networks may be viable in a given area.

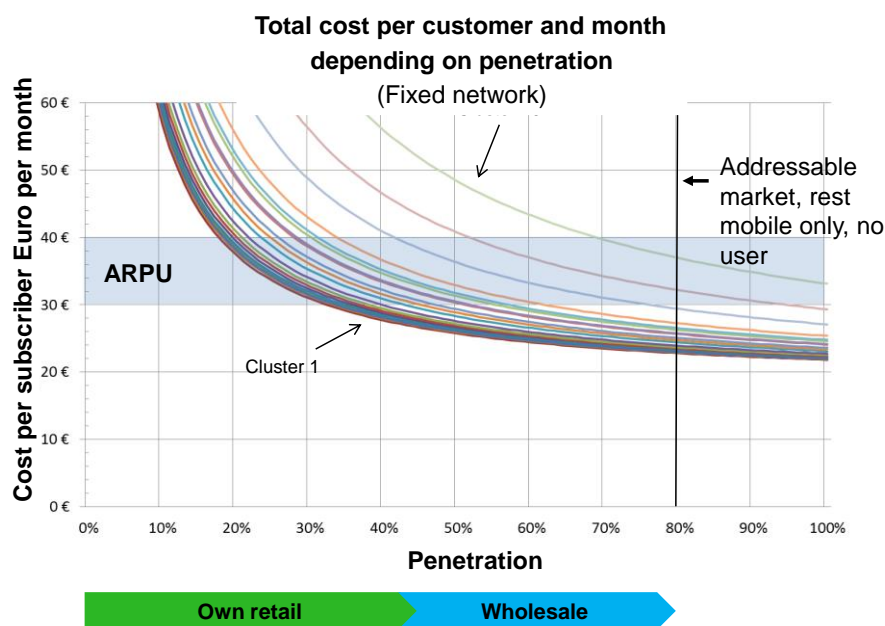


Chart 1: Determining the Critical Market Share, Source: WIK-Consult⁹²

⁹² The graphs represent cost per user for clustered areas of similar household density. The denser populated, the lower the cost per user. Each of the clusters has an equal number of households. The critical market share per cluster is the intercept point of the horizontal ARPU line and the cluster's cost curve. Here are cost per user and Revenue per user equal. The Critical Market share is the penetration (on the x-axis) at which this condition is met.

Assuming that the maximum total penetration of a fixed telecommunication lies around 80% (because some households may not purchase broadband at all or may only rely on mobile communications), one can say that there is economic space for more than one fixed infrastructure based network provider if the critical market share is below 40%, and if cost and ARPU for a second provider are the same or better (lower cost at the same or even higher ARPU) as the first provider.

An indication of the viability of 3 independent infrastructure operators might be areas where the critical market share is 26.6%. In cases where an operator has a wholesale business, the retail market shares of all providers using the same infrastructure are counted together.⁹³

In Malta 53% of the population live in dense urban area around Valetta on the main island with a household density of 2,620 HH/km²⁹⁴. This density is comparable with the population density WIK has taken into account in many business cases in the densest populated areas (clusters)⁹⁵. The FTTC and fibre ARPU in Malta is at €39.95⁹⁶. This is in line with the ARPUs WIK has considered in many business cases. Assuming that the deployment cost in these areas is comparable between the European regions or even lower in Malta due to the high degree of usage of aerial access lines one can roughly estimate that the critical market share in the densely populated area of Malta is below 27%. Thus, in theory, there should be economic space for another (third) independent infrastructure in this area, which represents 53% of population, although it should be noted that the prevailing retail market shares are roughly evenly split between only two operators (GO and Melita).

The other areas in the South and North-East of the main island are estimated to have a critical market share below 40% and thus in theory offer economic space for two independent infrastructure providers, which is currently the case. These areas account for 33% of the population. The Western part of the main island and the northern island Gozo have half of the household density of North-East and South, and account for 15% of the population. Here we

⁹³ Thus, if an infrastructure based provider has an own retail market share of 40% and the wholesale buying operators have a retail market share of 20% these shares of together 60% are relevant for determining, if the infrastructure business is viable or not. If the critical market share in the relevant area is 50% the infrastructure business is viable, if it is 70% it is not viable. One of the assumptions is that the wholesale business is covering the cost and that both operators work in an EOI (equivalence of input) manner.

⁹⁴ Source: Regional statistics of Malta 2020 and Wikipedia, communities grouped by WIK.

⁹⁵ See Ecorys, Idate, VVA, CBO, WIK author team; Supporting the implementation of CEF2 Digital – SMART 2017/0018, European Commission, Brussels/Luxembourg, January 2020, <https://op.europa.eu/en/publication-detail/-/publication/8947e9db-4eda-11ea-aece-01aa75ed71a1/language-en/format-PDF/source-116100663>.

⁹⁶ This is the upper line of the blue ARPU-band in **Error! Reference source not found.**

expect that two newly constructed physical infrastructures would not be viable. Nevertheless, these areas benefit from the legacy cable network alongside the network of GO, and further retail competition could be realised on the basis of wholesale cooperation. Of course, any operator intending to deploy VHC infrastructure in this area could also do so by cross subsidizing this deployment from other profitable regions, but may not have an economic incentive to do so if (as is the case for the operators present on the market), the primary objective is profit maximisation⁹⁷.

WIK-Consult concludes that, from a purely theoretical perspective, infrastructure-based competition based on three end-to-end VHC networks could be viable in Malta to just over half of the Maltese population, while more limited duplication (of two or in some cases just one) network might be sustainable elsewhere.

⁹⁷ In Wernick, C.; Bender, C. (2017): The Role of Municipalities for Broadband Deployment in Rural Areas in Germany: An Economic Perspective, in: Digiworld Economic Journal, No. 105, 1st Q 2017, we observed that publicly owned electronic communication network operators might have different incentives (e.g. maximisation of coverage) from those which are privately owned.

Annex 2 - FTTH deployment in a demographic context

With an area of only 315km², Malta is the smallest country within the EU, which makes it the most densely populated EU Member State with 1,649 persons per square kilometre. Malta comprises six regional districts, including the island of Gozo, with varying population densities⁹⁸.

Population, household and dwelling statistics	Gozo	Northern Region (N)	Western Region (W)	Northern Harbour Region (NH)	Southern Harbour Region (SH)	South Eastern Region (SE)	Total
Square km (km ²)	69 km ²	74 km ²	72 km ²	24 km ²	26 km ²	50 km ²	315 km ²
Population	39,287	93,755	65,266	157,297	86,009	77,948	519,562
Population density (/km ²)	572	1,273	901	6,547	3,287	1,554	1,649
Number of households (2020) ⁹⁹	13,849	37,170	22,766	71,646	32,934	28,503	206,868
Household density (/km ²)	201	502	316	2,985	1,267	570	657
Number of dwellings – end of September 2022 ¹⁰⁰	36,225	65,611	37,851	109,690	56,419	41,201	346,997
Number of dwellings – end of March 2023 ¹⁰¹	36,780	66,406	38,219	111,263	59,041	43,988	355,695
Note 1	The largest three localities are San Pawl il-Baħar (Region: N; Pop: 32,402), Birkirkara (Region: NH; Pop: 25,807) and Il-Mosta (Region: N; Pop: 23,482) – accounting for 15.7% of the total population.						
Note 2	Tas-Sliema is the most densely populated locality with 15,167 persons per square kilometer (Region: NH; Pop: 19,655).						

Table 5: Population and population density in Malta, by geographic region and other relevant data

⁹⁸ These regions are identified based on the local administrative units (LAUs), which are used to divide up the economic territory of the European Union (EU) for statistical purposes at the local level. The LAUs have been established by Eurostat and are compatible with NUTS. This classification system is equivalent to the six districts in which all Maltese localities are classified, as designated by the Malta Geographic Codes (MGC). For more information, please refer to the following link:

<https://msdi.data.gov.mt/geonetwork/srv/eng/catalog.search#/metadata/3609662c-41ef-4795-8394-7ff560563faa>

⁹⁹ Figures are sourced from a publication by the National Statistics Office in Malta entitled 'Regional Statistics – Malta 2022 Edition'. Link:

[https://nso.gov.mt/en/publicatons/Publications by Unit/Documents/02 Regional Statistics \(Gozo Office\)/2022/Regional%20Statistics%20Malta%202022%20Edition.pdf](https://nso.gov.mt/en/publicatons/Publications%20by%20Unit/Documents/02%20Regional%20Statistics%20(Gozo%20Office)/2022/Regional%20Statistics%20Malta%202022%20Edition.pdf)

¹⁰⁰ Based on information supplied by GO.

¹⁰¹ Ibid.

The northern harbour region exhibits the biggest population density, at almost twice the levels of the southern harbour region, which is the second densest region in Malta. The western region and the northern harbour region also exhibit a significant concentration of businesses, such as financial and gaming businesses. The National Statistics Office (NSO) reports that 'Enterprises with a registered address in Ħal Luqa, Marsa, Birkirkara, San Ġiljan and Tas-Sliema generated the largest aggregated amounts of GOS in the Maltese non-financial economy in 2019'¹⁰².



Figure 1: Malta's main geographic regions

Epic is deploying its own FTTH in infrastructure in the localities of Mosta (in the northern region), Balzan and Attard (in the western region) and Birkirkara (in the northern harbour region). While these localities accounted for circa 41,552 dwellings by the end of March

¹⁰² Link to NSO report: https://nso.gov.mt/en/News_Releases/Documents/2021/07/News2021_120.pdf. Relevant to underline that, according to the NSO, 'non-financial' businesses incorporate 'Industry, Construction, Wholesale and retail trade and Services activities'. Also, the NSO states interprets the term 'Gross Operating Surplus (GOS)' as equivalent to the term 'profits'. The localities of Birkirkara, San Giljan and Tas-Sliema are found in the Northern Harbour Region.

2023¹⁰³, Epic’s FTTH infrastructure covered 20,575 dwellings at these localities by the end of the same month. This translates into a network coverage for Epic of 5.8% on a national basis.

Epic’s FTTH coverage by locality is presented in Table 2 hereunder. This operator’s FTTH coverage ranges from just 17.9% of all dwellings at Birkirkara to 81.0% of all dwellings at Balzan. The MCA notes that network coverage information is supplied directly by Epic on a quarterly basis (as is the case with GO, with the exercise to compile the data launched by the MCA in the third quarter of 2022).

FTTH coverage in localities where Epic is deploying FTTH	Attard	Balzan	Birkirkara	Mosta	National
Epic	73.8%	81.0%	17.9%	67.9%	5.8%
GO	93.9%	97.0%	99.4%	96.3%	66.7%

Table 6: FTTH coverage in Malta as at end March 2023

¹⁰³ This figure is based on data supplied by GO.

Also, according to the 2021 DESI country report for Malta, Epic intends to cover 25% of households with fibre by 2024, i.e. circa 53,000 households. Link to 2021 DESI Country Report for Malta: <https://digital-strategy.ec.europa.eu/en/policies/desi-malta>

Annex 3 - Approaches to bundling in the context of the ERT

Spain

The Spanish regulator CNMC applies an ERT in wholesale local access to fibre in the non-competitive municipalities (the local NEBA service). As bundles play a significant role in Spain, the Economic replicability test (ERT) applies a joint replicability test for analysing bundles. All the incomes and costs related to all the services included in the bundle are considered as a whole. The most important elements included in the broadband bundles are the mobile services and the pay-tv components (including premium sport channels).¹⁰⁴

Ireland

In its 2018 market review ComReg decided that:

“For bundles sold/offered using NGA FTTC or FTTH inputs, or in the case of FTTC retail broadband sold singly (i.e. not bundled with any other service), then in order to pass the MST:

- *as regards the NGA Portfolio, the Average monthly NGA portfolio revenue per customer (Reference R5) shall be equal to or exceed the Average monthly NGA portfolio cost (Reference C13); and*
- *as regards each individual bundle, the Average monthly NGA bundle revenue per customer (Reference R4) shall be equal to or exceed the Average monthly NGA adjusted bundle cost (Reference C12)”*

They include eirsports on-going costs and the LRIC of any Unregulated Services where applicable.

¹⁰⁴ CNMC (2022): *Resolución Por La Que Se Acuerda Notificar A La Comisión Europea, Al Ministerio De Asuntos Económicos Y Transformación Digital, A Las Autoridades Nacionales De Reglamentación De Otros Estados Miembros De La Unión Europea Y Al Organismo De Reguladores Europeos De Comunicaciones Electrónicas El Proyecto De Medida Relativo A La Revisión De Parámetros Del Test De Replicabilidad Económica De Los Productos De Banda Ancha De Telefónica Comercializados En El Segmento Residencial* (OFMIN/DTSA/003/21); European Commission (2022): Case ES/2022/2381: Review of parameters of the Economic Replicability Test (ERT) for Telefónica's fibre wholesale products serving the retail residential segment in Spain Commission Comments pursuant to Article 32(3) of Directive (EU) 2018/1972; CNMC (2021): *Resolución Por La Que Se Aprueba La Definición Y Análisis De Los Mercados De Acceso Local Al Por Mayor Facilitado En Una Ubicación Fija Y Acceso Central Al Por Mayor Facilitado En Una Ubicación Fija Para Productos Del Mercado De Masas, La Designación Del Operador Con Poder Significativo De Mercado Y La Imposición De Obligaciones Específicas, Y Se Acuerda Su Notificación A La Comisión Europea Y Al Organismo De Reguladores Europeos De Comunicaciones Electrónicas*, ANME/DTSA/002/20/MERCADOS ACCESO LOCAL CENTRAL.

Further, ComReg specifies that if a bundle does not pass the initial pre-launch MST assessment, ComReg will carry out a general assessment of the reasonableness of the bundle and may conclude that, notwithstanding the fact that the bundle fails the MST, the offer for sale by Eircom of that bundle does not constitute a breach of the obligation under the ComReg Decision D10/18 not to cause a margin squeeze. This assessment may be based on any robust evidence of retail efficiencies or increased customer lifetimes resulting from the relevant bundle. In addition, the impact of the bundle on competition also is relevant.¹⁰⁵

In March 2023 ComReg published its consultation document on the market review of market 1. ComReg proposes a MST where *“for the FTTH flagship products, sold singly or as part of a bundle, the MST will be passed:*¹⁰⁶

(a) At the portfolio level if the Net Present Value (NPV) is not negative i.e., when the average total PV of revenue is equal to or exceeds the average total PV of costs.

(b) At the FTTH flagship product level if the NPV is not negative i.e., when the Present Value (PV) of revenue is equal to or exceeds than the PV of costs for each of the relevant FTTH flagship products.

Belgium

In Belgium, the NRA BIPT in its 2018 market review imposed the obligation to charge "fair" prices, to be set using a BU-LRIC cost model. The regulator argued that Proximus' investments in a risky asset such as fibre justify a looser price control obligation for fibre access compared to copper access. The price control is complemented by a margin squeeze test. In 2021 the BIPT examined, at portfolio level, whether the operators with a significant market power (Proximus, Telenet, Brut el  and VOO SA) use rates that may result in a price squeeze (or margin squeeze). At the time, this portfolio price squeeze test was conducted at a relevant aggregation level, i.e. the portfolio of the flagship products of the mentioned operators. The BIPT did not find price squeeze practices at portfolio level in 2021. In December 2022 BIPT conducted a MST at the level of individual products following a complaint by edpnet regarding certain fibre-based retail internet subscriptions offered by

¹⁰⁵ See for more detail ComReg (2018): Response to Consultation and Decision on price control obligations relating to retail bundles. Further specification of the wholesale price control obligation not to cause a margin squeeze in the WLA, and WCA Markets, https://www.comreg.ie/media/dlm_uploads/2018/11/ComReg-1896.pdf and Oxera (2018): Amendments to the bundles margin squeeze test, Prepared for Commission for Communications Regulation,, 29 August 2018, https://www.comreg.ie/media/dlm_uploads/2018/11/ComReg-1896a.pdf.

¹⁰⁶ For a definition of the costs and revenues see ComReg (2023): Market Reviews Wholesale Local Access (WLA) provided at a fixed location Wholesale Central Access (WCA) provided at a fixed location for mass-market products, Consultation and Draft Decision, ComReg 23/03, 9 January 2023, <https://www.comreg.ie/media/2023/01/ComReg-2303.pdf>, p. 450 ff.

Proximus and its brand Scarlet. BIPT did not find negative margins at product level when taking into account the relevant incremental costs and revenue, as well as the share of customers who are served based on bitstream xDSL (copper) or bitstream GPON (fibre). Consequently, edpnet's complaint was rejected.¹⁰⁷

Bundled products are included in the MST taking into account total present costs specified for the duration of each product.¹⁰⁸

¹⁰⁷ <https://www.bipt.be/operators/publication/communication-of-22-june-2021-regarding-guidelines-implementing-margin-squeeze-tests#:~:text=The%20BIPT%20has%20found%20no%20margin%20squeezes%20practices,BIPT%20to%20adapt%20certain%20stipulations%20of%20its%20guidelines> and <https://www.bipt.be/operators/publication/communication-of-22-june-2021-regarding-guidelines-implementing-margin-squeeze-tests>.

¹⁰⁸ https://www.bipt.be/file/cc73d96153bbd5448a56f19d925d05b1379c7f21/044c15bfc77570d15e0d49c3bbeff18446ce0708/ms_guidelines_2021_fr.pdf



MALTA COMMUNICATIONS AUTHORITY

-  (+356) 2133 6840
-  info@mca.org.mt
-  www.mca.org.mt
-  Valletta Waterfront, Pinto Wharf,
Floriana FRN1913, Malta