



# BUSINESS CONNECTIVITY MARKET REVIEW

## T1480GJ

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### ANNEX 1

### PRODUCT AND MARKET DEFINITION

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# 1. INTRODUCTION

1.1 This report carries out a geographic and product market assessment and a market power assessment for the Guernsey Competition and Regulatory Authority's (GCRA) business connectivity market review (**BCMR**). It includes a top-down review of the decision making practice of various National Regulatory Authorities (NRAs). In particular, it is comparatively based on key findings of the Competition Appeal Tribunal (CAT) in *BT vs Ofcom*, 10 November 2017, and Ofcom's Physical Infrastructure Market Review (PIMR) and Business Connectivity Market Review (BCMR) 2019.

1.2 The BCMR examines the provision of on-island leased lines in Guernsey, which are high speed, high-quality connections that telecoms providers use for connecting offices, mobile base stations, and broadband access networks. Leased lines form the backbone of the island's key digital infrastructure.

1.3 The report assesses the relevance of these findings to the network topology and business realities of the Guernsey infrastructure and business leased line markets. The report's conclusions are based firmly on factual data provided by the operators and statistical data relating to geographic densities and market concentration on the island.

1.4 Our report is structured as follows:

- An overview, including statistical and financial data;
- Market Definitions:
  - Geographic Markets;
  - Product Markets;
- Dominance and Joint Dominance;
- Pricing Policies and Bandwidth Gradient;
- Competition Appeal Tribunal (CAT) *BT vs Ofcom* 2017: Summary Findings

## 2. AN OVERVIEW – SUMMARY FINDINGS AND MARKET DATA

2.1 Our review identified eight regulated markets where operators, either singularly or jointly, hold significant market power (SMP). The findings are a direct result of the joint dominance position on the island that is occupied by Sure and JT (in GY1, GY2 & GY4).

### ANALYSIS OF REGULATED MARKETS

		RETAIL		WHOLESALE		Total Markets
Leased Lines			[X]		[X]	[X]
Revenues			[X]		[X]	[X]
<b>Connectivity below 1Gbps</b>		<b>1 St Peter Port (GY1), St Sampson (GY2), St Martin (GY4) (Urban)</b>		<b>5 Urban (GY1, GY2 and GY4)</b>		
Leased Lines	Sure		[X]		[X] ([X]%)	
	JT		[X]		[X]	
Revenues	Sure		[X]		[X]	
	JT		[X]		[X]	
		<b>2 Rest of Guernsey (ROG), or rural</b>		<b>6 ROG (or rural)</b>		
Leased Lines	Sure		[X]		[X]	
	JT		[X]		[X]	
Revenues	Sure		[X]		[X]	
	JT		[X]		[X]	
<b>Very High Bandwidth (1Gbps and above)</b>		<b>3 Urban (GY1, GY2 &amp; GY4)</b>		<b>7 Urban (GY1,GY2 &amp; GY4)</b>		
Leased Lines	JT		[X]	Sure	[X]	
	Sure		[X]	JT	[X]	
Revenues	Sure		[X]	Sure	[X]	
	JT		[X]	JT	[X]	
		<b>4 ROG (or rural)</b>		<b>8 ROG (or rural)</b>		
Leased Lines	Sure		[X]	Sure	[X]	
Revenues						

## Market Level

2.2 In terms of market level, it is appropriate to continue to distinguish between retail and wholesale leased line services because these markets are separate in their function and operation, and therefore, it is recommended that the GCRA maintains the distinction between the two markets.

## Product and Geographic Market

2.3 Within the **Retail Market**, we have identified two product markets within each of the two geographic areas.

2.4 **Market 1 – Retail Market for the provision of connectivity below 1Gbps in St Peter Port (GY1), St Sampson (GY2) and St Martin (GY4) post code areas - Sure and JT are jointly dominant.** Out of a total of [X] leased lines, Sure has 59.6% and JT 40.4%, and these percentages are similar when calculated on a revenue basis. JT's share is smaller, but its dominance is based on the large (over [X] % of total revenue) States of Guernsey (**SOG**) contract that guarantees JT's unrestricted access for leased line provision to SOG for ten years.

2.5 **Market 2 – Retail Market for the provision of connectivity below 1Gbps within the Rest of Guernsey (ROG).** Sure is dominant in this market and has sole SMP status. JT has no presence in this market.

2.6 **Market 3 – Retail Market for the provision of connectivity  $\geq$  1Gbps within St Peter Port (GY1), St Sampson (GY2) and St Martin (GY4) post code areas, also referred to as Very High Bandwidth (VHB).** JT is the dominant provider and holds SMP status.

2.7 **Market 4 – Retail Market for the provision of connectivity  $\geq$  1Gbps within the ROG.** Sure is the only provider of these services in this area and holds SMP status.

2.8 Within the **Wholesale Market**, we have identified two product markets within each of the two geographic areas, as below:

- 2.9 **Market 5 – Wholesale Market for the provision of connectivity within St Peter Port (GY1), St Sampson (GY2) and St Martin (GY4) post code areas below 1 Gbps.** Sure is the main provider of wholesale connectivity in this area. This continues to be the case, as the only alternative wholesale connectivity provider, JT, predominantly operates a point-to-point network and its business connectivity services do not rely on a wholesale model. Sure, therefore, retains its SMP status.
- 2.10 **Market 6 – Wholesale Market for the provision of connectivity below 1Gbps within ROG. No operator currently provides wholesale connectivity within this area.** However, it is anticipated that there will be future requirements for access in this area.
- 2.11 **Market 7 – Wholesale Market for the provision of connectivity >= 1 Gbps within St Peter Port (GY1), St Sampson (GY2) and St Martin (GY4) areas.** Sure retains SMP status for the same reasons referred to under Market 5.
- 2.12 **Market 8 – Wholesale Market for the provision of connectivity >= 1 Gbps in ROG.** Sure retains SMP status despite very low leased lines in this market. Sure’s dominance is a direct result of it being the only provider of connectivity and ubiquity in the whole of Guernsey.

## 3. MARKET DEFINITION

- 3.1 The data and evidence provided by the licensed operators suggests that the leased lines markets in Guernsey have changed significantly since the 2014 BCMR. The changes in the leased lines markets are attributable to JT’s extension of its fibre network, which it uses to provide services for its SOG contract, to other business enterprises. Another key factor is the prospective demand for VHB to support next generation technologies such as 5G.
- 3.2 Further, our analysis of data provided by the operators has revealed the existence of two separably identifiable geographic markets, as opposed to the single national market regulated under the framework established by the 2014 BCMR.

## Geographic market

3.3 To define the relevant markets, a range of data, including market conditions, operators' past activities, and market developments expected or foreseeable over the upcoming market review period have been considered.

3.4 The commercial market conditions in Guernsey suggest a different set of conditions by geography in terms of demand and supply for leased lines, specifically between St Peter Port (GY1), St Sampson (GY2) and St Martin (GY4) post code areas versus the ROG. Therefore, the recommended geographic market distinction proposed is between GY1/GY2/GY4 and the ROG, both at retail and wholesale levels. This demarcation is significantly informed by the different commercial presence and associated demand for leased lines services to support business activity on the island.

## States of Guernsey published "Facts and Figures 2019" for Guernsey industry sectors, densities and topology

3.5 Gross Value Add to Guernsey Economy by sector are as follows:

- 41% Finance (£1,318m);
- 10.9% Professional services (£351m);
- 8% Wholesale, retail (£259m);
- 8.6% Public administration (£277m);
- 8.2% Households (£263m); and
- 3.6% Construction (£114m).

3.6 As at March 2019, there were 17,579 registered companies, out of which 13,907 (79%) were in the finance sector, 455 in wholesale and retail, and 549 in professional services. During the year to March 2019, there were 1,544 company incorporations, out of which 1,229 (79.5%) related to the finance sector.

3.7 The total area of Guernsey is 65 (km sq.), with population of 62,792 and average density of 965 per square km (Wikipedia).

3.8 The three areas (St Peter Port (GY1), St Sampson (GY2) and St Martin (GY4)) served by both JT and Sure amount to 19.8 square km (30% of land area) with a population of 34,517, or over 54% of the island's total. The density of those combined three post code areas is 1,743 population per square km, almost double the rest of the country.

3.9 Within the individual areas, most businesses are situated in St Peter Port (GY1). The other two areas are where the majority of the Government premises are located in St Sampson (GY2), as well as hotels and restaurants in St Martin (GY4).

3.10 Operators have not provided any detailed information outlining plans for reaching business customers in the ROG area. Therefore, the report relies on publicly available data which shows the remaining areas, with the exception of Vale, have lower than average population density and no significant business presence.

## Regulatory framework for geographic market analysis - Ofcom's example

3.11 In its 2017 BCMR, Ofcom adopted the following twofold approach for its assessment of the level of competitiveness in a given location in the UK:

1. The Boundary Test, which was used to identify "areas where competition is strongest and appears likely, even at this stage to be effective"; and
2. The HNR (High Network Reach Test), which refers to leased line markets with a high density of rival infrastructure, known as high network reach areas.

3.12 Ofcom also focussed its analysis on "depth of competition", where operators "...are very likely to find it more attractive to invest in incremental network expansion, because they benefit from further economies of scale and scope."

3.13 This report considered the impact of operators' stated plans for network investment and whether additional expansion would take advantage of further economies of scale and scope. Based on information provided by operators', it is our conclusion, that future plans for business connectivity are unlikely to alter competitive conditions in the market, mainly due to the size of

the market in Guernsey and the already high business concentration levels in the St Peter Port area.

3.14 Ofcom's analysis of the "*depth of competition*" in a relevant geographic market used six criteria, which this report applied in relation to the Guernsey market. As below:

1. Network reach to large business sites – defined as each business having access to alternative fibre providers within 100 meters;
2. Network reach to existing Very High Bandwidth sites – defined, as above;
3. Market concentration – assessment of whether a geographic area is highly concentrated, so that two fixed infrastructure providers in business lines would imply high concentration by this standard;
4. Scale of local market and prospects for incremental infrastructure expansion - Those areas outside St Peter Port (GY1), St Sampson (GY2) & St Martin (GY4) show little demand for leased lines and/or Very High Bandwidth products, suggesting they are less likely to support sustainable competition or attract infrastructure expansion;
5. Volume of circuits and density of business sector.

3.15 In the "*Notice on Market Definition*", (BT vs Ofcom 10 November 2017) CAT defined the "*Relevant Geographic Market*" as "*... the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas*", and further "*The relevant market within which to assess a given competition issue is therefore established by the combination of the product and geographic market*".

3.16 This report concludes that areas defined by parish post codes to be most appropriate and practical. So that, if parish A displays similar conditions to parish B, they both form a single geographic market.

## GCRA geographic market assessment

3.17 Our analysis did not adopt Ofcom's 'High Network Reach Test' since that test applied to areas with a high density of rival infrastructure which is not a feature of the Guernsey markets, where there are at most only two rival network operators.

3.18 Instead, the delineation by administrative post code areas reflects most appropriately and closely the relevant geographic markets in Guernsey, where a distinction is drawn between the areas (GY1, GY2 & GY4) where there are at least two competing networks with close access to business and government sectors, and ROG where the incumbent has a virtually singular presence.

3.19 The CAT 2017 BT vs Ofcom decision notes,

*"It is important for NRAs to bear in mind the purpose of market definition, which is not an end in itself but a means to undertaking an analysis.", and further, "does not indicate that market definition can be disregarded, but simply that some approximation and pragmatism may be legitimate when defining geographic markets".*

3.20 We also note that BEREC in BoR (19) states:

*"For the purpose of selecting the relevant geographic unit, NRAs may also want to take into consideration BEREC's Common Position on geographic aspects of market analysis (definition and remedies), ("Bor 14), as well as earlier findings that may have been made in the context of the ex-ante regulation of markets 3 and 4....In order to gain a better understanding of the way telecommunications operators make their investment decisions, NRAs may want to appraise their strategic and business plans, which may provide some insights into which geographic unit is deemed relevant for the purpose of seeking access to telecommunications infrastructure. .... Depending on the circumstances of each case, the relevant geographic unit may be related to the network topology of the telecommunications operators, but it may also be linked to administrative boundaries (e.g., towns, communes, municipalities, postal codes, etc.) if competitive conditions are sufficiently homogenous within – and appreciably different outside – the chosen administrative area. ...Following the delineation and a first assessment of the situation prevailing in the geographic units, those units have largely homogeneous competitive conditions can be aggregated".*

3.21 Based on the data provided by the operators and the information presented in SOG Facts and Figures 2019 for Guernsey by industry sectors, densities, and topology, it is justifiable to conclude that the area of St Peter Port (GY1), St Sampson (GY2) and St Martin (GY4) are not sufficiently similar to the rest of the island to justify a single national market definition. Instead, the evidence supports the designation of two distinct geographic markets for leased line products and services provision on Guernsey island, namely St Peter Port (GY1), St Sampson (GY2) & St Martin (GY4), and ROG.

3.22 That analysis is commensurate with the conclusions reached by CAT in BT vs Ofcom, 10 November 2017.

## Product Market

3.23 With respect to the product market, our assessment considered whether:

1. It is appropriate to maintain a distinction between different speeds of service and, if so;
2. Whether there is more than one distinct market, and if so, what speed parameters should be applied.

3.24 Business connectivity services tend to be symmetric so that upload and download speeds are the same. Upload speeds tend to be more important for businesses. At the upper end, upload speeds up to 10 Gbps can be provided both by Sure and JT using different technologies. At the lower end, speeds below the minimum upload speed of 10 Mbps for businesses are defined as “low speed services”. However, these can be substituted by residential broadband services. Operators have confirmed that speeds as low as 2Mbps will soon be upgraded to 10 Mbps and above. As such, it would be disproportionate and shortly redundant to define low speed leased lines as a separate market.

3.25 The main element in retail services relevant to the BCMR is the provision of connectivity between the sites of the businesses. Such connectivity can be provided “point-to-point” (as is the case in JT’s business model) or using the network of a downstream communication provider (in the case of Sure).

3.26 The vast majority of operator products and services provided over their optical networks are either 10 Mbps or 100 Mbps. Products offering speeds in excess of that capacity are mostly used for operator self-provision and/or backhaul, which is particularly relevant to future expected demand trends to support next generation technologies such as 5G.

3.27 Leased lines are a critical component in most communications and their applications can be classified into two broad categories:

1. Fixed access for business sites (“Business Access”);
2. Use by Mobile Network Operators (MNOs) to connect their mobile base stations to the network (“Mobile backhaul”).

### Backhaul – should it be treated as a separate product market?

3.28 Mobile network operators (MNOs) are significant buyers of leased lines. MNOs use leased lines to connect their mobile base stations to a point of aggregation in their core networks. This can be done using a mix of access and backhaul connections.

3.29 The information provided by the operators indicates that they use approximately [X] backhaul products, wholesale, and retail circuits (including self-provision) for coverage across all the islands in the Bailiwick.

3.30 In Guernsey, mobile connectivity is provided by the three operators; Sure and JT who both also own fixed networks, while Airtel is a mobile only operator. Airtel purchases [X] leased line circuits from Sure, [X]20Mbps and [X]155 Mbps, but the bulk of its backhaul is provided over microwave links.

3.31 Currently, some 40% of the backhaul around the world is supplied using microwave links as it provides a “quick and easy” mobile connectivity solution with reasonable bandwidth capacity, all under the control of the mobile operator. However, fibre optic backhaul is seen as the preferred, long term solution as it provides flexible growth potential and, importantly, can meet the latency requirements for video and the development of 5G.

3.32 In Guernsey, the use of mobile backhaul (except for Sure and JT's own use) is limited to two other telecoms companies. However, operators expressed their opinion that backhaul and, in particular, connectivity and capacity for up to 10Gbps, is likely to be a standard requirement for mobile backhaul provision. This suggests that, on a forward-looking analysis, the microwave link provision by which downstream competitors of Sure and JT are supported, will be inadequate and arguably is already inadequate to satisfy rapidly rising demand requirements and needs in this market.

3.33 In its PIMR and BCMR 2019, Ofcom sets out its approach to the assessment of backhaul (where CI Access services below refers to Contemporary interface services which are connections over fibre typically using and Ethernet interface), and stated as follows:

*"We have examined if there are significant differences in competitive conditions in the supply of mobile backhaul connections to base stations compared to other services in the CI Access markets. If we were to find significant differences in the conditions of competition, it might be appropriate to define separate markets. .... We have concluded that mobile backhaul is part of the CI Access services market, rather than a separate product market, on the basis of homogeneity of competitive conditions. Even if we were to define separate market for MNO backhaul, the resultant SMP assessment would be similar to those for all CI Access customers...As part of our assessment, we also proposed to exclude microwave backhaul links from the CI Access services market"* (Ofcom PIMR and BCMR 2019 Annex A9).

3.34 The backhaul product has very different characteristics from other leased lines service level agreements and its importance is widely recognised for the future development of both wholesale and retail services. However, best practice regulatory frameworks require an analysis of competitive conditions before a designation of a separate product market can be made.

3.35 For Guernsey, there is currently limited choice of products for on-island backhaul connectivity which forces new operators to either under or over dimension their networks. In particular, increments of 10/20/50 Mbps are sought for high speed leased lines. This suggests the nature of demand for high speeds is different to demand at lower speeds.

3.36 In responses to the consultation process, operators complained about the incumbents' reluctance to provide new services. It is claimed that discussions are often unnecessarily

protracted and insufficient evidence is provided to demonstrate that requested solutions are not possible on the grounds of commercial non-feasibility. Operators have also raised the issue of the high level of pricing, in particular, for Very High-Bandwidth services (VHB), 1Gbps and above. These complaints appear justified given that the blended price of the 1Gbps product is approximately four times what BT charges and recovers on its Fully Allocated Costs basis.

3.37 In conclusion, the nature of demand at the upper end of leased line provision, in terms of speed (and price), does appear different to demand at the lower end of provision. As well as the extremely high speeds required to meet certain forms of demand, this is accompanied by particular requirements for incremental and flexible options, which is not present at the lower end of provision. However, it is not obvious that such features are unique to those seeking backhaul only. The conclusion therefore is that leased lines markets are most appropriately distinguished between lower and higher speeds, rather than any unique demand features of backhaul that suggest it is another separate market.

## Demand and supply side substitutability test

3.38 In relation to demand-side analysis, the European Commission's Notice dated 9 December 1997, on the definition of relevant market for the purposes of competition offers useful guidance:

*"The extent of the product market might be narrowed in the presence of distinct groups of customers. A distinct group of customers for the relevant product may constitute a narrower, distinct market when such a group could be subject to price discrimination. This will usually be the case when two conditions are met: (a) it is possible to identify clearly which group an individual customer belongs to at the moment of selling the relevant products to him, and (b) trade among consumers or arbitrage by third parties should not be feasible."* [page 7, para 43]

3.39 The conditions for price discrimination are likely to be met for each individual customer in the business connectivity market. First, it is possible for a supplier to identify each individual customer based on their location and this is unique for each customer. Second, there is no potential for trade or arbitrage among leased lines customers, as each connection is unique i.e. a connection to a customer at a given location cannot be used for connecting a customer in a different location. Therefore, on a strict demand-side basis, each leased line customer in principle could belong to a distinct product market.

3.40 Even if services are not demand-side or supply-side substitutes, it can be appropriate to analyse services as constituting part of the same market if competitive conditions in the supply of the two services are sufficiently homogeneous. For Guernsey, the competitive conditions are not similar between the geographic areas identified in our analysis and differ by speed due to technological differences between the two networks, the operators' network reach, and customer segment dependence.

3.41 Therefore, a key question for the product market assessment is whether there are groups of customers for which the competitive conditions are similar so they can be considered as a separate market. To answer that question, the following competitive conditions were considered, and our conclusions are provided below:

1. Presence of rival infrastructure. We analysed whether and to what extent the ability of nearby network operators to compete is different for a given enterprise site based on product characteristics and geographic location. Our analysis of network diagrams suggests different network characteristics in different areas of Guernsey;
2. Customer group and density of competing networks. If there are more dense networks close to one customer group, e.g., financial services in GY1, this would suggest these customers have different supply conditions. This is the case in Guernsey (see above statistical data on industry sectors, population and business densities);
3. Ubiquity of the operator's network. This results in greater advantage when competing for customers (e.g. Sure incumbent infrastructure across the whole island vs JT's high speed capability for leased line services in specific areas of the island);
4. Differences in demand-side characteristics when purchasing business lines. When differences mean that one particular group of customers is likely to face a significantly different level of competition (e.g. financial services or businesses based in certain areas) with different market outcomes, this is an indication of a separate product group;
5. Demand side substitution for microwave links. Microwave radio is not widely available to business customers. If MNOs consider microwave links to be an alternative to other leased

line products, this would mean that Sure and JT would face stronger competition from Airtel. This does not appear to be the case.

## Access to bandwidths up to 1Gbps and Very High Bandwidth service

3.42 In 2019, JT introduced up to 10 Gbps Ethernet leased lines, and this is where a demand increase could be seen over the last year of the review period driven mainly by certain connectivity requirements.

3.43 There are currently relatively low volumes of traffic within the Very High Bandwidth in Guernsey (defined as connectivity above 1 Gbps/Very High Bandwidth wholesale and/or retail services.). However, both operators and our research indicate that this is the area of growth, with particular demand for the enhanced provision of backhaul services over the next market review period.

3.44 In terms of precedents set by other NRAs, the most relevant case is BT's successful appeal against Ofcom decision on, a) geographic market assessment and, b) identification of one product market across all bandwidths in 2017. The Competition Appeal Tribunal ruled in 2019 that Ofcom erred on both counts.

3.45 Ofcom based its analysis of products markets under 1Gbps and over 1Gbps on:

1. Type of bandwidth demanded – see notes below;
2. Volume of circuits purchased – when services are not provided as they do not cost in or provide enough flexibility for operators to adjust capacity to their customers' requirements;
3. Volume and time commitment – operators have traditionally been subject to some minimum volume commitments, and this, together with the typical length of contract may imply that switching is not possible.

3.46 Ofcom in its submission to CAT, in 2019, wrote:

*“Even if there were material differences in bandwidth requirement, we do not consider this to have a material impact on competitive conditions. Evidence on actual digging behaviour shows that telecom providers rarely extend their networks to supply leased lines at any bandwidth and when*

*they do dig, the dig distance is similar across all bandwidths. In other words, the competitive conditions when competing for a CI Access customer tend not to differ depending on the bandwidth purchased” “2019 PIMR and BCMR Annex 1-25” and “Second, our analysis shows that both MNO and enterprise customers will use a mix of VHB and lower bandwidth services over this review period.”*

3.47 The commercial rationale in Guernsey suggests a key element of the above analysis is not as relevant in Guernsey. JT stressed the dependence of its network expansion on the profitability of the individual connections, and the evidence obtained confirms that assertion i.e. it is done with specific customer requirements informing network expansion extensions and to meet specific bandwidth requirements in a point-to-point network design.

3.48 Customers with lower bandwidth products lack the ability or have reduced purchasing power (this is particularly the case with SMEs) to cover the high cost of network connection and maintenance, which means that they are unlikely to be in the same product market as higher bandwidth. That point is supported by the data provided by the operators.

3.49 Having reviewed and considered the data provided, it is our view that a small but significant increase in price (defined as between 5% and 10%) would not result in switching between products and services below 1Gbps bands and above (VHB products).

3.50 The evidence provided by the operators, together with the additional data obtained from published external sources, supports the conclusion that there are two distinct product markets within the two geographic areas of St Peter Port, St Sampson and St Martin, and ROG. The relevant product markets are:

1. Provision of capacity to business sites and for backhaul below 1 Gbps;
2. Provision of capacity to business sites and for backhaul above 1Gbps, referred to as access to Very High Bandwidth.

3.51 Both product markets include self-provision.

## 4. DOMINANCE AND JOINT DOMINANCE

4.1 An important characteristic of the Guernsey market is the presence of only two principal competitors, albeit different across the island. Under certain conditions this market structure is often referred to as one where there is joint dominance.

4.2 Joint SMP does not require, or imply, that the two sectoral providers are engaging in illegal collusion, but where there is likely to be a “tacit coordination” between them, relative to their competitors, trading partners and customers.

4.3 Joint SMP may be found, if:

1. The relevant market is concentrated;
2. Each provider has a high and stable share of the market;
3. Significant and enduring barriers to entry exist.

4.4 Our analysis of these three criteria for determining joint SMP findings in Guernsey and their relevance to the Guernsey market are set out below.

### 1. Market Concentration

4.5 In economics, market concentration is usually defined as a function of the number of firms and their respective shares of the total production in the market, and it is a measure used to assess the level of competition, which is deemed to be positively related to the rate of profit in an industry or a market.

4.6 As an economic tool, market concentration analysis is useful because it reflects the degree of competition in the market. Typically, any study that tests the relationship between price and the level of market concentration also tests whether the market definition is relevant that is, whether the boundaries of each market are not being determined either too narrowly or too broadly so as to make the defined “market” meaningless from the point of the competitive interactions of the firms that it includes. This report refers to price issues in a separate section below.

4.7 To assess the level of concentration in the market we have carried out calculations using the Lerner index and Herfindahl-Hirschman Index (HHI) both of which indicate very high market concentration levels in Guernsey.

## 2. High and stable market share plus long-term government contract

4.8 The available data shows that over 58% of retail circuits are located within the St Peter Port (GY1) postcode area, of which [X]% ([X]) are Sure's circuits and the remaining [X]% ([X]) circuits are JT's. Approximately [X]% of Sure's retail customers within the St Peter Port area are represented by the financial services sector.

4.9 In addition, the evidence shows that no significant switching has taken place during the review period between 2014 and 2019. The only significant financial impact on operators was Sure's loss of wholesale circuits following JT's build out of its point-to-point fibre network in the most densely populated areas (GY1, GY2 and GY4).

4.10 JT also secured a long-term SOG contract with approximately [X]% of its retail circuits being provided to SOG premises.

## 3. Enduring barriers to entry

4.11 The EU and the UK's regulatory framework applicable to communications identifies the leased line market as one of the four types in which effective competition may be lacking. In line with that assessment, it is evident that because of the extensive infrastructure needed to provide leased lines, there are high and non-transitory barriers to market entry in Guernsey.

4.12 Further, any decision to extend an operator's network is largely driven by commercial considerations which take into account potential demand and profitability of the services that are being provided over its available networks. In turn, profitability is a function of two main factors:

1. The cost of investment and levels of operating cost requirements to maintain the quality of service; and

2. The density and affluence of the potential customer base. It is evident that the business sector within an urban area (GY1, GY2 & GY4) is more likely to attract greater levels of investment than rural or suburban areas (ROG).
3. It is logical that following a commercial investment decision JT's network rollout took place in St Peter Port and extended to areas where government premises and business parks are located, St Peter Port, St Sampson and St Martin.

4.13 All three areas share "urban" characteristics, as well as high density of highly profitable government and financial sectors that are already accessed by the two operators. This, combined with relatively small market size, (approximately 18,000 businesses on the island) ensures that the potential for new market entry is low.

## 5. PRICING AND BANDWIDTH GRADIENT

5.1 The data submitted by the operators lacked clear financial information in relation to prices and costs. Operators had difficulties in providing information and, when they did, data was inconsistent, often irrelevant or found to be simply wrong when reviewed and queried. A regulatory market analysis must rely on primary sources, namely from that provided by operators, or secondary sources, for example benchmarking. Given the lack of information available on profit levels, our analysis below must necessarily rely on secondary sources.

5.2 In our view, BT's published costs provided a good starting point for our analysis, as the input costs of equipment and £ exchange rate mean that the trends are likely to be similar across both jurisdictions. This report therefore considered the analysis of profitability trends that are published by BT in its regulated accounts. During the BCMR period (2014 to 2019) the average earnings in the UK were just over 10% lower than Guernsey. The RPI in the UK was higher (three years out of five) than that of Guernsey, indicating on average higher prices increases.

5.3 For Guernsey, bandwidth demand will continue to grow driven by new applications. In addition, demand for Very High Bandwidth circuits (for speeds over 1 Gbps) will accelerate, driven mainly by mobile and fixed backhaul customers. Demand for VHB circuits from enterprises is also

expected to grow, although it will remain low relative to the demand from mobile and fixed network backhaul customers.

5.4 The trends in the business connectivity markets also indicate that equipment costs are declining over the product life cycle from 4.9% to 7.3%. On an absolute basis, these costs are relatively constant across the Ethernet services for bandwidths of 1Gbps and below. For bandwidths above 1Gbps, equipment costs are higher, around triple the costs for lower bandwidths based on our analysis of BT’s Regulatory Financial Statements.

5.5 The equipment cost differential between 1Gbps and 10Gbps has also been declining over time. BT Regulatory Accounts suggest that since 2016 equipment costs for 10Gbps services have reduced by nearly half. As technology for 10Gbps continues to evolve, it is reasonable to assume that this cost gap will continue to narrow in the future.

## The bandwidth gradient and the UK example

5.6 Historically, BT charges have followed a bandwidth gradient, which means that charges increase with bandwidth. This bandwidth gradient has been greater than the equipment cost differential alone, also reflecting differences in willingness to pay, price discrimination, and affluence of customers in different locations.

5.7 BT’s Ethernet prices and fully allocated costs (2017) (Source: Ofcom and CAT BT vs Ofcom, 2017 based on 2017/18 and 2019/20 Regulated Accounts and Openreach price list April 2018)

	10Mbps	100Mbps	1Gbps	10Gbps
FAC p.a. (£)	3,800	3,900	3,500	5,000
Unit price				
2017	4,000	4,000	4,800	14,000
2018	3,900	3,900	4,500	7,900
2019			3,864	8,976

5.8 BT Ethernet products are regulated on a cost basis and therefore the charges listed above reflect relatively closely the cost of service provision by BT and are likely to reflect the relative cost of service provision between different bandwidths.

## Comparison to Sure’s pricing gradient

<b>Annual retail prices (£) for on island leased lines provided by Sure</b>						
[REDACTED]						
<b>Mbps</b>	<b>2</b>	<b>10</b>	<b>100</b>	<b>1000</b>	<b>2000</b>	<b>4000</b>
Same Exchange	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Different Exchange	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Blended	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Pricing increase ratio by increment						
		<b>160.01%</b>	<b>373.16%</b>	<b>297.74%</b>	<b>111.11%</b>	<b>117.46%</b>

5.9 The available data demonstrates that JT’s pricing policy retains approximately an [REDACTED]% differential from Sure’s pricing structure. Therefore, the observations set out below reflect both operators’ pricing policies:

1. Prices, at least at certain higher bands, are not evidently cost reflective given that pricing structures have remained unchanged over the period of the review compared to the decline in technology costs and that being the case, is evidence of operators not exerting significant competitive pressures on each other;
2. In the absence of clear costing evidence provided by operators, it is our view that the price increases between different speed bands indicate that they are set for different customer segments, reflecting customers’ greater ability to pay. The extent of price increases appears distinctly different above and below 1 Gbps products. The former being in the range 111% to 117% and the latter in the range 160% to 373%, and this evidence

demonstrates that different competitive conditions are likely to be present between the two distinct product markets;

3. Taking into account some network and operating cost increases on the island of Guernsey, reflecting lower economies of scale and less diverse supply provision as compared to the mainland UK, it is our view that prices are high across all bandwidths, indicating stable markets and high levels of profitability for both operators. We would recommend that the GCRA should seek to ensure that prices across all bandwidths reflect a reasonable rate of return on capital investments made and are not excessive.

## Summary findings

5.10 We further looked at the type of evidence that would indicate or be indicative of the operators' dominance on the market.

1. Evidence of substitution in the recent past – there is no evidence of substitution in Guernsey over the review period;
2. Quantitative test (e.g., evidence of price correlation) – operators' rates vary by a fixed [X]% which demonstrates price correlation;
3. Views of customers and competitors – operators are not forecasting increased growth in the business sector, but customers have raised the prospect of unmet demand and difficulties obtaining suitable access options from the two infrastructure providers;
4. Consumer preferences – within the context of business connectivity, operators are critical of the current pricing structures. They also claim that they are unable to tailor product and services to their business requirements, and their preference would be for greater diversity of the bandwidth provisions;
5. Evidence concerning barriers and costs associated with switching demand to potential substitutes – there is no data available to assess the scale of switching costs in Guernsey, however, the tariff data by bandwidth shows that product switching to a potential substitute outside that bandwidth would be unlikely;
6. Evidence concerning different categories of customers and price discrimination – the main concern from the regulatory perspective is that the two network providers' businesses are dependent on two key sectors. The high dependence on these two sectors is further entrenched by the fact that one of the operators was granted a 10-year contract,

effectively excluding anyone else from competing for that customer for an extensive period of time in a technology market where change can be rapid.

## 6. COMPETITION APPEAL TRIBUNAL (CAT) BT VS OFCOM 2017: SUMMARY FINDINGS

6.1 The issue was put forward to CAT for decision in relation to whether Ofcom erred in its conclusion that a SSNIP test for 1G and 10G Ethernet product would be rendered unprofitable. Ofcom's view was that switching in relation to price movements is likely, but the CAT ruled that Ofcom had erred in that decision.

## 7. CONCLUSIONS

7.1 This report details a precise and methodological analysis of the business connectivity market in Guernsey, which is based on the data provided by operators, the application of relevant market decision making practice from the UK, and the application of recognised economic principles. Whilst it is recognised that the report's findings depart somewhat from the previous BCMR, as outlined throughout the report, its findings are fully justifiable as they are based on an analysis of presented evidence and supporting data.

7.2 Therefore, the report has correctly identified eight separate regulated markets where two licenced operators, Sure and JT, either singularly or jointly, are deemed to have significant market power status. Further, the report confirms that these findings are attributable the existence of joint dominance between Sure and JT for the provision of leased lines in the key areas relevant to the BCMR, being the post code areas of GY1, GY2 and GY4.

END.

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**This report was produced for the GCRA by Ms Anna Coast of telcoconsulting**

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