



Section 57 of the Competition Act (Cap. 50B)

Grounds of Decision issued by the Competition and Consumer Commission of Singapore in relation to the proposed joint venture between EQT Fund Management S.à r.l. and Widex Holding A/S

12 October 2018

Case number: CCCS 400/005/18

Confidential information in the original version of this Decision has been redacted from the published version on the public register. Redacted confidential information in the text of the published version of the Decision is denoted by [X].

TABLE OF CONTENTS

Contents

I.	Introduction	3
II.	The Parties to the Proposed Transaction	4
III.	The Proposed Transaction	6
IV.	Competition Issues	8
V.	Counterfactual	9
VI.	Relevant Market	9
VII.	Market Structure	21
VIII.	Competition Assessment	29
IX.	Efficiencies	37
X.	Conclusion	38

I. Introduction

The Notification

1. On 3 September 2018, EQT Fund Management S.à r.l. (“**EQT**”) and Widex Holding A/S (“**Widex Holding**”) (collectively, the “**Parties**”), made a joint application pursuant to section 57 of the Competition Act (Cap. 50B) (“**the Act**”) for a decision by the Competition and Consumer Commission of Singapore (“**CCCS**”) on whether the creation of a full-function joint venture (the “**Joint Venture**”), which will combine the activities of Sivantos Pte. Ltd. (Singapore) (“**Sivantos**”) and Widex A/S (“**Widex**”) (being subsidiaries of EQT and Widex Holding respectively) under a newly incorporated joint venture entity (the “**Proposed Transaction**”), will infringe the prohibition in section 54 of the Act (“**the section 54 prohibition**”).¹ Both Sivantos and Widex are active as global manufacturers and suppliers of hearing aids and hearing accessories.²
2. In reviewing the Proposed Transaction, in addition to conducting a public consultation, CCCS sought feedback from a total of twenty-four (24) third parties, comprising four (4) manufacturers of hearing aids³, eighteen (18) customers⁴, one (1) association⁵ and one (1) government agency⁶. Eight (8)⁷ of the twelve (12)⁸ responses received by CCCS were substantive in nature. Third parties did not indicate any major concerns with the Proposed Transaction.
3. In relation to the supply of traditional hearing aids⁹, intermediate customers such as third party retailers and hospitals noted that there are sufficient alternative suppliers of traditional hearing aids, such that they can switch suppliers without any greater difficulty even after the Proposed Transaction. Further, the information available suggests that Sivantos and Widex are not each other’s closest competitor. The recent loss of sales by both Sivantos and Widex, [REDACTED] and the significant competition from Sonova, William Demant and GN, further support the view that the Proposed Transaction is unlikely to result in a substantial lessening of competition in Singapore.

¹ Paragraph 1.1 of Form M1.

² Paragraph 1.2 of Form M1.

³ [REDACTED]; [REDACTED]; [REDACTED]; and [REDACTED].

⁴ [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; and [REDACTED].

⁵ [REDACTED].

⁶ [REDACTED].

⁷ The eight substantive responses were from [REDACTED], [REDACTED], [REDACTED], [REDACTED], [REDACTED], [REDACTED], [REDACTED], and [REDACTED].

⁸ The other four responses were from [REDACTED], [REDACTED], [REDACTED], and [REDACTED].

⁹ Including body-worn hearing aids, including accessories and services that are intrinsically linked to the supply of hearing aids.

4. At the end of the consultation process and after evaluating the information available, CCCS concludes that the Proposed Transaction, if carried into effect, will not infringe the section 54 prohibition.

II. The Parties to the Proposed Transaction

EQT

5. EQT is a private equity investment firm. Its funds' portfolio companies are active in a variety of industries.¹⁰
6. [REDACTED] are acquisition vehicles owned by private equity funds EQT VI, EQT VII and EQT VIII¹¹ respectively, which are in turn part of EQT.¹²
7. In 2015, EQT, by way of EQT VI, acquired sole control of Sivantos from Siemens. Sivantos is headquartered in Singapore.¹³ The relevant Singapore entities are:
 - a. Sivantos Holding Singapore Pte. Ltd.; and
 - b. Sivantos Pte. Ltd. (Singapore).¹⁴
8. EQT's total annual (group) revenue worldwide as at August 2018 was EUR [REDACTED] (approximately S\$[REDACTED]).¹⁵ EQT's total annual (group) revenue in Singapore as at August 2018 was EUR [REDACTED] (approximately S\$[REDACTED]).¹⁶

Sivantos

9. Sivantos is headquartered in Singapore and manufactures hearing aids as well as complementary accessories. Also included in its portfolio are fitting software, smartphone applications and diagnostics workflow solutions.¹⁷

¹⁰ A list of the portfolio companies currently controlled (solely or jointly) by the EQT funds, including a brief description of their business activities, is available at <http://www.eqt.se/Investments/Current-Portfolio/>. Paragraph 10.6 of Form M1.

¹¹ EQT VI, EQT VII and EQT VIII are, among others, private equity funds managed by EQT. EQT VI, EQT VII and EQT VIII invest, directly and indirectly, in various companies; Paragraph 6.1 of the Parties' response dated 12 September 2018 to CCCS's request for information ("RFI") dated 7 September 2018.

¹² Paragraph 7.1 of Form M1.

¹³ Paragraph 7.4 of Form M1.

¹⁴ Paragraph 10.1 of Form M1.

¹⁵ Paragraph 13.1 of Form M1.

¹⁶ Paragraph 13.3 of Form M1.

¹⁷ Paragraph 10.8 of Form M1.

10. In Singapore, Sivantos supplies traditional and body-worn hearing aids to public and private hospitals and third party retailers, and provides the respective after-sales support, including warranty support, servicing of hearing aid devices, repairs, and maintenance. Sivantos does not have its own retail stores in Singapore.¹⁸ Sivantos has a manufacturing facility in Singapore, where behind-the-ear hearing aids are produced and assembled.¹⁹
11. Sivantos provides products and services in Singapore primarily under the following trading names, business names and brand names:
 - a. Siemens;
 - b. Signia; and
 - c. Rexton.²⁰
12. The worldwide turnover for Sivantos in relation to traditional hearing aids, hearing aid accessories and after sales support in the year 2017 was EUR [x] (approximately S\$[x]). The Singapore-wide turnover for Sivantos in the year 2017 was S\$[x].²¹

Widex Holding and Widex

13. Widex is a privately held business headquartered in Lyngø, Denmark, wholly-owned by Widex Holding.²² Widex manufactures and assembles hearing aids. Also included in its portfolio are complementary accessories, fitting software and smartphone applications.²³
14. Widex Singapore Pte. Ltd. (“**Widex Singapore**”) is a wholly-owned subsidiary of Widex, which carries out all business and operational activities of Widex in Singapore.²⁴
15. In Singapore, Widex supplies traditional hearing aids to public and private hospitals, and provides after-sales services, servicing of devices, repairs or maintenance for Widex products.²⁵ Widex does not have a manufacturing

¹⁸ Paragraphs 10.14 and 10.15 of Form M1.

¹⁹ Paragraph 10.16 of Form M1.

²⁰ Paragraph 10.4 of Form M1.

²¹ Paragraph 16.1 of Form M1.

²² Paragraph 7.5 of Form M1.

²³ Paragraph 10.11 of Form M1.

²⁴ Paragraph 10.2 of Form M1; Paragraph 1.1 of the Parties’ response dated 12 September 2018 to CCCS’s RFI dated 7 September 2018.

²⁵ Paragraph 10.19 of Form M1.

presence in Singapore.²⁶ Widex sells traditional hearing aids in its three retail outlets.²⁷

16. Widex Holding's worldwide turnover in relation to traditional hearing aids, hearing aid accessories and after sales support for the financial year ended 31 March 2018 was EUR [3<] (approximately S\$[3<]). Widex Holding's Singapore-wide turnover for the financial year ended 31 March 2018 was S\$[3<].²⁸

III. The Proposed Transaction

17. The Parties have submitted that the Proposed Transaction will entail the establishment of a new full-function joint venture entity (of a nature as described in section 54(5) of the Act) called Danish MergeCo S.à r.l. ("**MergeCo**"), which will comprise the businesses of Sivantos and Widex.²⁹ Upon completion of the Proposed Transaction, the Parties, as the ultimate parents of MergeCo, will control that new entity.³⁰

Strategic and economic rationale

18. The Parties submitted that by combining Sivantos's and Widex's respective businesses, they aim to compete more effectively in more markets, particularly against the larger hearing aid companies, namely Sonova and William Demant, and other hearing aids manufacturers (Starkey and GN, among others).³¹
19. The Parties submitted that the Proposed Transaction will enable Sivantos and Widex to consolidate their research and development ("**R&D**") resources to accelerate innovation and develop tailored solutions for specific hearing needs. Specifically, it is envisaged that the Proposed Transaction will facilitate the development and introduction of products which neither Widex nor Sivantos possess now, or possess only to a limited extent. The Parties submitted that, while the Sivantos and Widex businesses are largely complementary, it is expected that the Proposed Transaction will yield significant economies of scope and scale.³²

²⁶ Paragraph 10.20 of Form M1.

²⁷ Paragraphs 10.17 and 10.24 of Form M1.

²⁸ Paragraph 9.3 of the Parties' response dated 12 September 2018 to CCCS's RFI dated 7 September 2018.

²⁹ Paragraph 11.1 of Form M1.

³⁰ Paragraph 11.1 of Form M1.

³¹ Paragraph 12.1 of Form M1.

³² Paragraph 12.2 of Form M1.

Whether the Joint Venture is a “merger” under the Act

20. The Parties submitted that the Proposed Transaction falls under section 54(5) of the Act in so far as it is a joint venture which will perform, on a lasting basis, all the functions of an autonomous economic entity.³³

Joint control

21. The Parties submitted that [REDACTED].³⁴ [REDACTED]³⁵ [REDACTED].³⁶ [REDACTED].³⁷ [REDACTED].³⁸

Autonomous economic entity

22. The Parties submitted that MergeCo will be the parent company of both Sivantos and Widex ([REDACTED]³⁹), and will therefore be in control of the same resources. The MergeCo will therefore be operationally independent of the Parties after the merger. The MergeCo will also not be limited to specific functions of its parents and will carry on its own activities.⁴⁰ The Parties also highlighted that the Joint Venture will be independent of the Parties in terms of sales and purchases, and will independently fund its operations.⁴¹

Lasting basis

23. The Parties submitted that the Joint Venture will be incorporated and operated for an indeterminate period of time and is intended to be run as a long-lasting market operator.⁴² The Parties also clarified that the Proposed Transaction will in essence merge the respective business and operations of Widex and Sivantos, albeit that the EQT entities may exit their investments in the merged entity. In this regard, the Proposed Transaction will result in a permanent combination of the business activities of Widex and Sivantos.⁴³

³³ Paragraph 11.2 of Form M1.

³⁴ Paragraph 11.2.2 of Form M1.

³⁵ The Parties submitted that [REDACTED].

³⁶ Paragraph 11.2.3 of Form M1; clauses 12.1.1 and 12.3.1 of the Shareholders’ Agreement (“SHA”) in Annex 3 of Form M1.

³⁷ Paragraph 11.2.6 of Form M1; clause 12.2.3 of the SHA in Annex 3 of Form M1.

³⁸ Paragraph 11.2.4 of Form M1; clause 12.3.2 of the SHA in Annex 3 of Form M1.

³⁹ Paragraph 11.2.7 of Form M1.

⁴⁰ Paragraph 11.2.8 of Form M1.

⁴¹ Paragraph 11.2.9 of Form M1.

⁴² Paragraph 11.2.11 of Form M1.

⁴³ Email response by the Parties dated 5 September 2018.

CCCS's conclusion on whether the Joint Venture constitutes a merger

24. Based on the Parties' submission that the Proposed Transaction will create, on a lasting basis, a joint venture to combine the businesses of Sivantos and Widex, and which is subject to effective joint control by the Parties as its parent companies, and which performs all functions of an autonomous economic entity, CCCS concludes that the Proposed Transaction creates a joint venture constituting a merger under section 54(5) of the Act.

IV. Competition Issues

25. The Parties submitted that Sivantos and Widex overlap in the supply of traditional hearing aids in Singapore, namely:

- a. Behind-the-ear (“**BTE**”) hearing aids;
- b. Super-power BTE hearing aids;
- c. Receiver-in-the-canal (“**RIC**”) hearing aids;
- d. In-the-ear (“**ITE**”) hearing aids;
- e. In-the-canal (“**ITC**”) hearing aids;
- f. Completely-in-canal (“**CIC**”) hearing aids; and
- g. Invisible-in-the-canal (“**IIC**”) hearing aids,

and in the provision of complementary accessories (i.e. hearing aid batteries, remote controls, wax guards, and remote microphone/transmitters)⁴⁴, fitting software and smartphone applications⁴⁵, and the associated after sales support, including warranty support and servicing of hearing of aids.⁴⁶

26. The Parties submitted that after the transaction, [§<].⁴⁷ Hence, CCCS will not be making an assessment on the conglomerate effects of the Proposed Transaction.
27. In evaluating the potential impact of the Proposed Transaction, CCCS considered the horizontal overlap between Sivantos and Widex, and whether this will lead to coordinated and/or non-coordinated effects that would substantially lessen competition in the relevant market relating to the overlapping goods and/or services. CCCS also considered whether the Proposed Transaction will lead to vertical effects, given that Sivantos has no retail presence while Widex has three retail outlets in Singapore.⁴⁸

⁴⁴ Paragraph 1.2 of the Parties' response dated 24 September 2018 to CCCS's RFI dated 19 September 2018.

⁴⁵ Paragraph 3.1 of the Parties' response dated 12 September 2018 to CCCS's RFI dated 7 September 2018.

⁴⁶ Paragraphs 14.2.1 to 14.2.7, 14.5.1 to 14.5.7 and 15.1 of Form M1.

⁴⁷ Paragraph 2.1 of the Parties' response dated 12 September 2018 to CCCS's RFI dated 7 September 2018.

⁴⁸ Paragraph 36.3 of Form M1.

V. Counterfactual

28. In assessing mergers and applying the substantial lessening of competition (“SLC”) test, CCCS evaluates the prospects for competition in the future with and without the merger.⁴⁹ The competitive situation without the merger is referred to as the “counterfactual”. The SLC test will be applied prospectively, that is, future competition will be assessed with and without the merger.
29. In most cases, the best guide to the appropriate counterfactual will be prevailing conditions of competition, as this may provide a reliable indicator of future competition without the merger. However, CCCS may need to take into account likely and imminent changes in the structure of competition in order to reflect as accurately as possible the nature of rivalry without the merger.⁵⁰

The Parties’ submission

30. The Parties submitted that if the Proposed Transaction does not occur, the relevant counterfactual would be the status quo (i.e. Sivantos and Widex would continue operating independently as competitors).⁵¹

CCCS’s conclusion on the relevant counterfactual

31. CCCS accepts that absent the Proposed Transaction, the relevant counterfactual would be the status quo (i.e. Sivantos and Widex would continue operating independently as competitors).

VI. Relevant Market

(a) Product Market

32. The Parties submitted that the Proposed Transaction concerns the manufacture and sale of hearing aids. Hearing aids are pieces of electronic equipment that improve the hearing function of the hearing-impaired by amplifying incoming acoustic signals. Audiology is the interplay between hearing aid technology and the audible impression – e.g. filtering out certain

⁴⁹ Paragraph 4.14 of *CCCS Guidelines on the Substantive Assessment of Mergers 2016*.

⁵⁰ Paragraph 4.16 of *CCCS Guidelines on the Substantive Assessment of Mergers 2016*.

⁵¹ Paragraph 23.1 of Form M1.

signals, improving the comprehensibility of speech and enhancing hearing comfort in difficult hearing situations.⁵²

33. The Parties submitted that hearing aids are prescribed for addressing mild to profound hearing loss, as set out in the table below.⁵³

⁵² Paragraph 19.1 of Form M1.

⁵³ Paragraph 19.2 of Form M1.


Table 1: Degrees of hearing loss and use of hearing aids

Degree of hearing loss	Decibels	Explanation
Profound	> 95db	Hearing aids may or may not help. Cochlear implants are often an alternative option.
Severe	70-94db	A lot of difficulty hearing speech.
Moderate	40-69db	Moderate difficulty hearing speech.
Mild	25-39db	A little difficulty hearing speech (more serious for children still learning to speak).

Traditional hearing aids






34. The Parties submitted that hearing aids generally can be categorised into different types as BTE, Super-power BTE, RIC, ITE, ITC, CIC and IIC (see Table 2 for the types and area of use)⁵⁴, collectively referred to as “traditional” hearing aids.


Table 2: Types of traditional hearing aids⁵⁵

Type	Hearing loss range	Example
BTE is the largest product group of all hearing aids sold in major markets. BTE has been the preferred style of hearing aid due to the ease in which it can be taken on and off, maintained, and recharged, as well as a result of its general comfort. BTE hearing aids consist of two components: the hearing aid and the sound tube. The electronics are in the hearing aid, which is worn behind the ear. The sound tube can either be a small acoustic tube channelled through a custom-made ear mould, or a ‘thin-tube’ attached to an ear dome or custom-made micro-mould that fits inside the ear canal.	Mild-severe	

⁵⁴ Paragraph 19.14 of Form M1.

⁵⁵ Paragraph 19.15 of Form M1.

Type	Hearing loss range	Example
Super-power BTE hearing aids are powerful BTEs, using larger batteries and receivers in order to fit severe to profound hearing-impaired people (often used for children).	Severe-profound	
RIC hearing aids are a very discreet aid that fits behind the ear. Unlike the traditional BTE hearing aid, the loudspeaker of the RIC model sits inside the ear canal meaning there is less circuitry to fit inside the hearing aid. RIC devices are an enhancement of the more traditional BTE devices.	Mild-profound	
ITE hearing aids are designed so that the electronic components are built into the ear fitting that is placed within the ear. The ear fitting is also called the otoplastic. It is custom-made for the individual wearer by the manufacturer.	Mild-severe	
ITC hearing aids are custom-made to fit in the lower third of the external ear (cavum concha). Extraction cords can be fitted to ITC hearing aids to help insert and remove them from the ear.	Mild-moderate	
CIC hearing aids are custom-made to fit almost entirely inside the ear canal (external auditory meatus) and are therefore almost invisible, with only the faceplate and battery drawer usually visible. All electronic components are housed inside the hearing aid. Extraction cords are usually fitted to CIC hearing aids to help insert and remove them from the ear.	Mild	

Type	Hearing loss range	Example
IIC hearing aids are a smaller version of the CIC.	Mild	

35. The Parties submitted that Sivantos and Widex (and all other main manufacturers of hearing aids) produce a broad portfolio of all types of traditional hearing aids.⁵⁶
36. The Parties also submitted that the various types of hearing aids set out in Table 2 above should be considered to fall under the same relevant product market, without any further segmentation. Although there are a number of different types of hearing aids (such as BTE, CIC, ITC, etc.), the overall functionalities are considered similar, and are broadly at the same levels of technology. On the demand side, there is a continuum of needs, and products designed to meet those needs are largely substitutable for one another. Each basic form of traditional hearing aid is suitable for a range of hearing problems and there is significant overlap across devices in this respect. The large number of features and options available allow users to further customise their choice in order to match their individual preferences. Therefore, further segmentation based on the type of traditional hearing aids on the basis of demand-side considerations do not map to particular customer needs in any clear defined manner, and accordingly, any further segmentation of traditional hearing aids would be largely arbitrary.⁵⁷

Accessories

37. The Parties submitted that hearing aid manufacturers also manufacture or provide all kinds of accessories for hearing aids, including⁵⁸:
- a. batteries and charging stations;
 - b. solutions for single-sided deafness;
 - c. solutions for connectivity to mobile phones and televisions; and
 - d. drying and cleaning solution for the devices.⁵⁹

⁵⁶ Paragraph 19.16 of Form M1.

⁵⁷ Paragraph 14.1 of the Parties' response dated 12 September 2018 to CCCS's RFI dated 7 September 2018.

⁵⁸ Paragraph 19.17 of Form M1.

⁵⁹ Paragraphs 19.17.1 to 19.17.2 of Form M1.

38. The Parties submitted that such accessories are provided either by the manufacturers to wholesalers/distributors, or by third party vendors directly to retailers, and sales to end-customers are often bundled with the hearing aid purchase and are prerequisites for full utilisation of the hearing aid.⁶⁰ The accessories that are usually included when purchasing a hearing aid are batteries, solutions for connectivity to mobile phones and televisions ("**Dex Accessories**") and a dry-go kit. It should be noted that the manufacturers include some of these accessories free-of-charge, especially for higher priced hearing instruments. End-users can buy hearing aids without these accessories and procure some of them elsewhere. For instance, the end-users can buy batteries from other sources.⁶¹
39. Most of the time, accessories and services are producer-specific or even product-specific and only work with the manufacturer's own devices. Spare parts are by definition linked to the manufacturer's products. Accessories such as remote controls and charging stations can only be used with the manufacturer's product. However, there are exceptions to this, for example, ear moulds and batteries. Ear moulds are consumer-specific and are typically renewed every two to three years. Where ear moulds are replaced, those may, however, come from another supplier.⁶²

Hearing-aid related services

40. The Parties submitted that hearing care professionals will conduct hearing tests and identify the correct hearing aid together with the patient. They will also take care of the subsequent fitting process, which starts with an assessment of the patient's individual needs and ends with follow-up visits after the customised programming of the device.⁶³
41. A more recent trend involves so-called "TeleCare" services, which allow for timely feedback using integrated information solutions, through the hearing care professional. During this process, there are various factors to be taken into account, including the patient's degree of hearing loss, lifestyle, previous experience and personal preferences. Hearing aid related services also include the initial hearing aid programming, later adjustments, maintenance and repair.⁶⁴

⁶⁰ Paragraph 19.18 of Form M1.

⁶¹ Paragraph 16.1 of the Parties' response dated 12 September 2018 to CCCS's RFI dated 7 September 2018.

⁶² Paragraph 19.19 of Form M1.

⁶³ Paragraph 19.20 of Form M1.

⁶⁴ Paragraph 19.21 of Form M1.

42. For all these services, hearing care professionals receive intense support from manufacturers.⁶⁵ These services are intrinsically linked to the supply of the hearing aids and therefore do not constitute a separate market.⁶⁶ In this regard, the Parties submitted that the support provided in general by hearing aid manufacturers to hearing care is in the form of “active engagement”.⁶⁷ This active engagement entails a number of services rendered by the manufacturers to the retailers, including training and seminars for retailers to familiarise themselves with new products and the latest technology map(s), the repair and maintenance of hearing devices, software and calibration equipment, and financial support and other benefits (which include bonuses or discounts and also warranties or even loans).⁶⁸

“Pocket-aid”/ “Body-worn” devices

43. The Parties submitted that body-worn instruments consist of a case that contains amplifier components, an in-ear mould and a cord.⁶⁹ As technology in smaller BTEs has improved, the need for body-worn products has decreased sharply. However, new body-worn hearing aids are still produced by some hearing aid manufacturers. They are also very useful for people with severe dexterity problems.⁷⁰
44. Nowadays, BTEs are mostly low-cost hearing aids that are commonly used in emerging markets (most often in China, India and South East Asia), often also because the batteries powering the devices are standard AA or AAA types, which are much more widely available and cheaper than the batteries used within other hearing aid options.⁷¹
45. The Parties submitted that HSA classifies body-worn hearing aids as class B medical devices, along with traditional hearing aids.⁷²

⁶⁵ “A “hearing care professional” is a doctor who specialises in this area of hearing healthcare. In this regard, the term generally covers ENT doctors and audiologists. This term largely overlaps with the “hearing aid dispensers” as long as a doctor is concerned. Paragraph 17.1 of the Parties’ response dated 12 September 2018 to CCCS’s RFI dated 7 September 2018.

⁶⁶ Paragraph 19.22 of Form M1.

⁶⁷ Paragraph 17.2 of the Parties’ response dated 12 September 2018 to CCCS’s RFI dated 7 September 2018.

⁶⁸ Paragraph 24.3.3 of Form M1.

⁶⁹ See <http://www.fdp.org.uk/articles/types-hearing-aids.html>.

⁷⁰ Paragraph 19.26 of Form M1.

⁷¹ Paragraph 19.27 of Form M1.

⁷² Paragraph 19.28 of Form M1.

46. The Parties submitted that the main manufacturers in this segment are Sonova (Phonak), William Demant, Sivantos, GN, Starkey, Panasonic as well as a large number of other producers in Asia.⁷³

Hearing aids for children

47. The Parties submitted that hearing aids for children are subsumed within both the traditional hearing aids and the body-worn hearing aids categories, and already considered as part of the overlapping goods or services.⁷⁴
48. The Parties submitted that the technology and the platform in the hearing aids made for children are to a very large extent the same as hearing aids made for adults. The chip within the hearing aid is similar to the chip used in adult models but might be calibrated differently to meet the special needs of a child's everyday life. Therefore, there is no significant difference in the hearing aids provided for children and the hearing aids provided for adults except for the shell, which obviously needs to be fitted for a smaller ear.⁷⁵
49. The Parties submitted that hearing aids should always meet the specific requirements of an end-user for safety, style, and audiological features (e.g. a special locking mechanism etc.). Children are not different from adults in that regard and all manufacturers offer hearing aids for children.⁷⁶
50. The Parties submitted that different technology is not needed to design or manufacture hearing aids for children; however, some manufacturers have put more effort into their specific expertise regarding hearing aids for children, by hosting conferences for paediatric audiologists, offering a wider variety of colours as well as the development of specific accessories for children (e.g. a clip to attach the hearing aids to the child's clothes or a maintenance kit with accessories to help keep the hearing aids clean and working). Sonova and William Demant, in particular, have focused on their paediatric range of products.⁷⁷
51. While the technology for hearing solutions for children is not very different to those of adults, the solutions for children may differ due to age-specific requirements. For example, paediatric products designed for children aged 0-3 years, typically include safety measures which guard against the possibility of these children chewing off or swallowing parts, eliminating all

⁷³ Paragraph 19.29 of Form M1.

⁷⁴ Paragraph 18.1 of the Parties' response dated 12 September 2018 to CCCS's RFI dated 7 September 2018.

⁷⁵ Paragraph 19.30 of Form M1.

⁷⁶ Paragraph 19.31 of Form M1.

⁷⁷ Paragraph 19.32 of Form M1.

possibilities to adjust volume/programs on the hearing instrument and require a more complicated fitting process with a different fitter/child interaction. For older children, the important need to hear well in a noisy classroom environment is often addressed by a supplementary wireless communication system, which picks up the sound from a teacher’s microphone and transmits it wirelessly to the student’s hearing aid.⁷⁸

52. The Parties submitted that all of the larger industry participants are active in the main hearing aid segments, as summarised in the table below.⁷⁹

Table 3: Activities of larger industry participants in main hearing aid segments

Offering	Sivantos	Widex	Sonova	William Demant	Starkey	GN
Traditional hearing aids	Yes	Yes	Yes	Yes	Yes	Yes
Hearing aids for children	Yes	Yes	Yes	Yes	Yes	Yes

The Parties’ submissions on relevant product market

53. The Parties therefore submitted that it is appropriate to define the relevant market as the supply of traditional hearing aids, including body-worn hearing aids, including accessories and services that are intrinsically linked to the supply of hearing aids, but excluding cochlear implants⁸⁰, Personal Sound

⁷⁸ Paragraph 19.33 of Form M1.

⁷⁹ Paragraph 19.45 of Form M1. The table has been truncated to only present the manufacturers that are active in supplying the overlapping goods and/or services.

⁸⁰ Paragraphs 19.39.1 and 19.39.2 of Form M1. A cochlear implant is an implanted electronic device that can produce a useful hearing sensation by electrically stimulating nerves inside the inner ear. Apart from the need for a surgical procedure, cochlear implants are different from hearing aids in some aspects: they are indicated only for individuals with severe-profound hearing loss; they bypass the outer and middle ears; and they damage hair cells and replace their functions by converting sound energy into electrical energy that directly stimulates the auditory nerve.

Amplification Products (“PSAPs”)⁸¹, assistive listening devices (“ALDs”)⁸² and diagnostic instruments^{83, 84}.

CCCS’s assessment of the relevant product market

54. CCCS considered whether narrower sub-segments of the relevant product market could be defined, as discussed in the following paragraphs.
55. CCCS notes that Sivantos and Widex do not overlap in the supply of body-worn hearing aids. Third parties have indicated that body-worn hearing aids are usually of poorer quality and based on obsolete technology. Hence, body-worn hearing aids are not generally considered good substitutes and are not commonly used, except in developing countries. In this regard, third party feedback suggests that body-worn hearing aids are hardly sold in Singapore.⁸⁵
56. The majority of third parties also indicated that from the end-user’s perspective, there is a fair degree of substitutability between the different types of traditional hearing aids, as they generally differ in shapes and sizes.⁸⁶

⁸¹ Paragraphs 19.34.1 and 19.34.5 of Form M1. PSAPs are wireless communication systems, generally consisting of a radio transmitter/microphone and a radio receiver, where the transmitter is placed close to the sound source (e.g. a teacher in a classroom) and the receiver is on the user. PSAPs are over-the-counter, wearable electronic devices that are designed to accentuate listening in certain environments (not full-time use). They are generally designed to provide some modest amplification of environmental sounds but because they are not regulated, they cannot be marketed as devices that help individuals with hearing loss. Although PSAPs are considered medical devices in some countries, they cannot amplify sounds above 30dB of gain and individual adaptation is not possible. Therefore, these products generally apply only to cases of minor and regular hearing loss and are a first step addressing hearing difficulties, where there is no associated medical prescription.

⁸² Paragraphs 19.34.6 and 19.34.7 of Form M1. ALDs are devices that assist the person with hearing loss manage specific listening environments or situations in which conventional devices are inadequate or inappropriate. ALDs can be used at work, home, places of employment or places of entertainment, and can be used to improve the signal-to-noise ratio, counteract the effect of distance, or minimize the effect of poor acoustics (e.g., reverberation). ALDs bring distant sounds directly into the wearer’s ear and can eliminate background noise. ALDs can be a significant help not only for people with serious hearing loss but also for people with milder loss and even those who do not wear a hearing aid. These devices can be purchased through retail outlets (including online). ALDs can be used with or without a hearing aid.

⁸³ Paragraph 19.41 and 19.42 of Form M1. Diagnostic instruments are used by audiologists and ear-nose-throat (“ENT”) doctors to both test the level of hearing impairment and also assist with the fitting process. Sivantos and Widex do not currently produce diagnostic instruments.

⁸⁴ Paragraph 20.1 of Form M1.

⁸⁵ Answer to question 8 of [3<]’s response dated 17 September 2018; Answer to question 8 of [3<]’s response dated 24 September 2018; Answer to question 8 of [3<]’s response dated 21 September 2018.

⁸⁶ Answer to question 9 of [3<]’s response dated 24 September 2018; Answer to question 9 of [3<]’s response dated 21 September 2018; Answer to question 9 of [3<]’s response dated 24 September 2018

The choice of type of hearing aid appears to be dependent on end-users' needs (e.g. lifestyle) and price points.⁸⁷

57. In relation to accessories, feedback suggests that some accessories appear to be generic (e.g. batteries, wax guards, certain microphone/transmitters, electric dryers)⁸⁸ while others (e.g. TV streamers, phone clips) are product- or brand-specific.⁸⁹ It also appears that some accessories are necessary for the full utilisation of the traditional hearing aids to a certain extent, depending on the needs of the end-users.⁹⁰ As such, the accessories can either be purchased as a bundle together when the end-user purchases the hearing aids, or separately at a later stage when the end-user requires them.⁹¹ However, feedback is mixed as to whether the costs of accessories are an important consideration in the end-user's decision to purchase traditional hearing aids.⁹²
58. Third party feedback indicates that hearing-aid related services (which in most cases are not product-specific or brand-specific) and after sales support such as warranty support, servicing, repairs and maintenance are usually bundled together with the purchase of the traditional hearing aids by end-users.⁹³ The feedback also indicates that the provision of these services is required for the full utilisation of the traditional hearing aids.⁹⁴

⁸⁷ Answer to question 9 of [3<]’s response dated 21 September 2018; Answer to question 9 of [3<]’s response dated 24 September 2018.

⁸⁸ Answer to question 19(c) of [3<]’s response dated 17 September 2018; Answer to question 19(c) of [3<]’s response dated 24 September 2018. Paragraph 1.2 of the Parties’ response dated 24 September 2018 to CCCS’s RFI dated 19 September 2018.

⁸⁹ Answer to question 19(c) of [3<]’s response dated 17 September 2018; Answer to question 19(c) of [3<]’s response dated 24 September 2018; Answer to question 19(c) of [3<]’s response dated 24 September 2018.

⁹⁰ Answer to question 19(d) of [3<]’s response dated 17 September 2018; Answer to question 19(d) of [3<]’s response dated 17 September 2018; Answer to question 19(d) of [3<]’s response dated 24 September 2018; Answer to question 12(d) of [3<]’s response dated 21 September 2018; Answer to question 19(d) of [3<]’s response dated 24 September 2018.

⁹¹ Answers to questions 19(a) and 19(b) of [3<]’s response dated 17 September 2018; Answers to questions 19(a) and 19(b) of [3<]’s response dated 17 September 2018; Answers to questions 19(a) and 19(b) of [3<]’s response dated 24 September 2018; Answers to questions 12(a) and 12(b) of [3<]’s response dated 21 September 2018; Answers to questions 19(a) and 19(b) of [3<]’s response dated 24 September 2018.

⁹² Answer to question 19(e) of [3<]’s response dated 17 September 2018; Answer to question 19(e) of [3<]’s response dated 17 September 2018; Answer to question 19(e) of [3<]’s response dated 24 September 2018; Answer to question 12(e) of [3<]’s response dated 21 September 2018.

⁹³ Answers to questions 18(a) and 18(c) of [3<]’s response dated 17 September 2018; Answers to questions 18(a) and 18(c) of [3<]’s response dated 17 September 2018; Answers to questions 18(a) and 18(c) of [3<]’s response dated 24 September 2018; Answer to questions 11(a) and 11(c) of [3<]’s response dated 21 September 2018; Answers to questions 18(a) and 18(c) of [3<]’s response dated 24 September 2018.

⁹⁴ Answer to question 18(e) of [3<]’s response dated 17 September 2018; Answer to question 18(e) of [3<]’s response dated 17 September 2018; Answer to question 18(e) of [3<]’s response dated 24 September 2018; Answer to question 11(e) of [3<]’s response dated 21 September 2018.

59. In relation to hearing aids for children, feedback is mixed as to whether the nature of competition with respect to hearing aids for adults vis-à-vis hearing aids for children is different. One third party indicated that there was no difference⁹⁵, while another third party indicated that there were some competition differences as children are treated primarily in hospitals.⁹⁶ In any case, third party feedback suggests that the market leader in the supply of hearing aids for children appears to be Sonova⁹⁷, and Sivantos and Widex may not be particularly strong players in supplying traditional hearing aids for children.
60. In conclusion, CCCS notes that no competition concerns have been raised in relation to the possible narrower sub-segments of the proposed relevant product market. Hence, regardless of whether narrower market definitions are adopted, CCCS's conclusion following its assessment (as set out below) would be the same. Thus, in this case, it is not necessary to conclude on a precise market definition. Nevertheless, CCCS will consider the market for the supply of traditional hearing aids, including body-worn hearing aids, including accessories and services that are intrinsically linked to the supply of hearing aids (“**Relevant Product**”) for the competition assessment.

(b) Geographical Market

61. The Parties submitted that generally, customers in Singapore strongly prefer to purchase traditional hearing aids and body-worn devices within the geographic boundary of Singapore.⁹⁸
62. The Parties submitted that a marginal number of customers may travel to Malaysia to make purchases. However, this is not typical, and typically end-customers would prefer to purchase within Singapore, and as such, Singapore serves a fair degree of imported demand (i.e., purchasers that have travelled to Singapore specifically to purchase their device).⁹⁹
63. Hence, the Parties submitted that the relevant geographic market should be Singapore.¹⁰⁰

⁹⁵ Answer to question 6(b) of [3<]’s response dated 17 September 2018.

⁹⁶ Answer to question 6(b) of [3<]’s response dated 21 September 2018.

⁹⁷ Answer to question 6(b) of [3<]’s response dated 24 September 2018; Answer to question 15 of [3<]’s response dated 21 September 2018.

⁹⁸ Paragraph 19.50 of Form M1.

⁹⁹ Paragraph 19.51 of Form M1.

¹⁰⁰ Paragraph 20.2 of Form M1.

CCCS's assessment of the relevant geographical market

64. CCCS notes that the major suppliers of traditional hearing aids (i.e. GN, Sonova, William Demant, Sivantos and Widex and Starkey) have a presence in Singapore.¹⁰¹ In this regard, third party feedback indicates that the key intermediate customers, such as hospitals, purchase traditional hearing aids from the Singapore entities of the major suppliers.¹⁰²
65. Based on the Parties' submissions and third party feedback, CCCS is of the view that the relevant geographic market is Singapore.

(c) Conclusion on relevant market

66. Taking into account the above considerations of the product and geographical market, CCCS has considered the competition in the market for the supply of traditional hearing aids including body-worn hearing aids, including accessories and services that are intrinsically linked to the supply of hearing aids in Singapore (“**Relevant Market**”) for the purpose of assessing the Proposed Transaction.

VII. Market Structure

(a) Market Shares and Market Concentration

The Parties' submissions

67. The Parties submitted the estimated market shares for traditional hearing aid products (including body-worn hearing aids) by volume for the last three years as set out in Table 4 below.¹⁰³ The Parties noted that the table below was compiled using a weighted average of the respective market share estimates of Sivantos and Widex.¹⁰⁴

¹⁰¹ Answer to question 6(a) of [3<]’s response dated 24 September 2018.

¹⁰² i.e. GN Hearing Pte. Ltd. for GN, Oticon Singapore Pte. Ltd. for William Demant, Sivantos Pte. Ltd. for Sivantos, Sonova Singapore Pte. Ltd. for Sonova, and Widex Singapore Pte. Ltd. for Widex. Answer to question 3 of [3<]’s response dated 24 September 2018.

¹⁰³ Paragraphs 10.1, 10.2 and Annex 2 of the Parties’ response dated 26 September 2018 to CCCS’s RFI dated 19 September 2018.

¹⁰⁴ Paragraph 21.2 of Form M1;

Table 4: Estimated market shares (by volume) for the Relevant Market for the last three years (2015 to 2017)

Relevant Market ¹⁰⁵	Estimated market shares (volume, %)					
	2015		2016		2017	
	Units	%	Units	%	Units	%
Sivantos	[§<]	[50-60]%	[§<]	[30-40]%	[§<]	[20-30]%
Widex	[§<]	[10-20]%	[§<]	[0-10]%	[§<]	[0-10]%
Combined-entity	[§<]	[60-70]%	[§<]	[40-50]%	[§<]	[30-40]%
Sonova	[§<]	[10-20]%	[§<]	[20-30]%	[§<]	[20-30]%
William Demant	[§<]	[10-20]%	[§<]	[20-30]%	[§<]	[20-30]%
GN ReSound ¹⁰⁶	[§<]	[0-10]%	[§<]	[0-10]%	[§<]	[0-10]%
Starkey ¹⁰⁷	[§<]	[0-10]%	[§<]	[0-10]%	[§<]	[0-10]%
Unknown/Other	[§<]	[0-10]%	[§<]	[0-10]%	[§<]	[0-10]%
Total	[§<]	100.0%	[§<]	100.0%	[§<]	100.0%

68. The Parties submitted the estimated market shares for traditional hearing aid products (including body-worn hearing aids) by value for the last three years, as set out in Table 5 below. The Parties noted that the table below was compiled using a weighted average of the respective market share estimates of Sivantos and Widex.¹⁰⁸

¹⁰⁵ The figures here do not include accessories and services that are intrinsically linked to the supply of hearing aids.

¹⁰⁶ The Parties have submitted that, [§<].

¹⁰⁷ The Parties have submitted that, [§<].

¹⁰⁸ Paragraph 21.3 of Form M1.

Table 5: Estimated market shares (by value) in the Relevant Market for the last three years

Relevant Market ¹⁰⁹	Estimated market shares (value, %)					
	2015		2016		2017	
	Value (\$\$)	%	Value (\$\$)	%	Value (\$\$)	%
Sivantos	[<]	[50-60]%	[<]	[40-50]%	[<]	[30-40]%
Widex	[<]	[10-20]%	[<]	[10-20]%	[<]	[0-10]%
Combined-entity	[<]	[60-70]%	[<]	[50-60]%	[<]	[40-50]%
Sonova	[<]	[10-20]%	[<]	[10-20]%	[<]	[20-30]%
William Demant	[<]	[10-20]%	[<]	[20-30]%	[<]	[20-30]%
GN ReSound ¹¹⁰	[<]	[0-10]%	[<]	[0-10]%	[<]	[0-10]%
Starkey ¹¹¹	[<]	[0-10]%	[<]	[0-10]%	[<]	[0-10]%
Unknown/Other	[<]	[0-10]%	[<]	[0-10]%	[<]	[0-10]%
Total	[<]	100.0%	[<]	100.0%	[<]	100.0%

CCCS's assessment

69. CCCS is generally of the view that competition concerns are unlikely to arise in a merger situation unless the merged entity will have a market share of 40% or more, or if the merged entity will have a market share of between 20% to 40% and with a post-merger CR3 at 70% or more.¹¹²
70. CCCS notes that the combined market shares of Sivantos and Widex, both in terms of volume or value, cross the indicative thresholds set out above. In this regard, based on the estimated market shares (in volume) for the year 2017, the combined market share is [30-40]%, and the post-merger CR3 is [80-90]%. In terms of value, the combined market share is [40-50]%, which is above the indicative threshold of 40%.

¹⁰⁹ The figures here do not include accessories and services that are intrinsically linked to the supply of hearing aids.

¹¹⁰ The Parties have submitted that, [<].

¹¹¹ The Parties have submitted that, [<].

¹¹² Paragraph 5.15 of *CCCS Guidelines on the Substantive Assessment of Mergers 2016*.

71. However, CCCS notes that the market shares of Sivantos and Widex (both in terms of volume and value), as submitted by the Parties, have each been decreasing since 2015. In contrast, the market shares of the Parties' competitors (e.g. Sonova, William Demant, GN and Starkey) (both in terms of volume and value) appear to have been increasing since 2015. Taken together with the increase in market size (both in terms of volume and value), the Parties appear to be losing market shares in a growing market. The Parties have explained that [3<] has switched to [3<], and that [3<] lost [3<], while [3<] lost [3<].¹¹³ Third party feedback suggests that one reason for the gain in market shares of the new entrants and other competing suppliers is possibly due to more innovative offerings (e.g. connectivity of hearing aids to mobile phones and/or other devices).¹¹⁴
72. To verify the Parties' market share estimates, CCCS obtained estimates from customers, which are summarised in the table below.

Table 6: Estimated market shares by third parties

Traditional hearing aids	Estimate by [3<]¹¹⁵ (%)	Estimate by [3<]¹¹⁶ (%)
Sivantos	[20 – 30]	[30 – 40]
Sonova	[10 – 20]	[20 – 30]
William Demant	[10 – 20]	[10 – 20]
GN	[10 – 20]	[10 – 20]
Widex	[0 – 10]	[0 – 10]
Starkey	[0 – 10]	[0 – 10]

73. The customers' feedback indicated that Sivantos has the highest market share in the market for the supply of traditional hearing aids in Singapore. Sonova and William Demant are the next two largest competitors, followed by GN. Widex and Starkey appears to be the two smallest competitors in the market.¹¹⁷ It therefore appears that the Proposed Transaction involves the consolidation of the largest supplier and one of the smaller suppliers of traditional hearing aids in Singapore.

¹¹³ Paragraphs 26.1 and 26.2 of the Parties response dated 12 September 2018 to CCCS's RFI dated 7 September 2018.

¹¹⁴ Answer to question 22 of [3<]'s response dated 24 September 2018.

¹¹⁵ Answer to question 20 of [3<]'s response dated 24 September 2018.

¹¹⁶ Answer to question 3 of [3<]'s response dated 24 September 2018. The estimates by [3<] is based on [3<]'s annual purchases of traditional hearing aid products (including body-worns) in Singapore value for the years 2016 to year-to-date 2018, as of 24 September 2018.

¹¹⁷ Answer to question 20 of [3<]'s response dated 24 September 2018; Answer to question 3 of [3<]'s response dated 24 September 2018.

74. CCCS also notes that the combined share of purchases (in value) of hearing aids from Sivantos and Widex that were made by [REDACTED] has been decreasing from about [60 – 70]% in 2014 to about [40 – 50]% in 2017.¹¹⁸ This trend is consistent with the market share estimates provided by the Parties and suggests that the Parties are losing market shares in a growing market.
75. A comparison of the actual value and volume of sales of the Relevant Product in Singapore for Sivantos, Widex, and [REDACTED] is made in the tables below.

Table 7: Value of sales in the Relevant Market (S\$)¹¹⁹

Relevant Market ¹²⁰	2015	2016	2017
Sivantos	[REDACTED]	[REDACTED]	[REDACTED]
Widex	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Table 8: Volume of sales in the Relevant Market (units)¹²¹

Relevant Market ¹²²	2015	2016	2017
Sivantos	[REDACTED]	[REDACTED]	[REDACTED]
Widex	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

76. The actual value and volume of sales by [REDACTED] relative to Sivantos and Widex support the view that the Joint Venture would likely face significant competition in Singapore from the larger suppliers including [REDACTED]. In terms of volume of sales, while [REDACTED].

(b) Barriers to Entry and Expansion

77. In assessing barriers to entry and expansion, CCCS considered whether entry by new competitors or expansion by existing competitors may be sufficient in likelihood, scope and time to deter or defeat any attempt by the Parties or their competitors to exploit the reduction in rivalry flowing from the

¹¹⁸ Answer to question 3 of [REDACTED]'s response dated 24 September 2018.

¹¹⁹ Extracted from paragraph 21.3 of Form M1. Answer to question 3 of [REDACTED]'s response dated 21 September 2018.

¹²⁰ The figures here do not include accessories and services that are intrinsically linked to the supply of hearing aids.

¹²¹ Extracted from Annex 2 of the Parties' response dated 26 September 2018 to CCCS's RFI dated 19 September 2018. Answer to question 3 of [REDACTED]'s response dated 21 September 2018.

¹²² The figures here do not include accessories and services that are intrinsically linked to the supply of hearing aids.

Proposed Transaction (whether through coordinated or non-coordinated strategies).¹²³

The Parties' submissions

78. With regard to entry, the Parties submitted that for an existing manufacturer of hearing aids overseas, entry into the Singapore market would simply involve (i) setting up local distribution capabilities (i.e., relationships) and/or facilities, and (ii) registering their products with HSA. In this regard, entry could occur quickly, and without the need for any significant sunk cost investments.¹²⁴
79. The Parties submitted that there are no significant barriers to entry into the market. While the sale of any given hearing aid product requires HSA registration, such registration can be easily obtained within a few months.¹²⁵
80. The Parties are of the view that entry into the Singapore market would be more feasible (and likely) for an existing competitor overseas (without operations in Singapore yet).¹²⁶
81. The Parties noted that GN and Starkey entered the Singapore market in 2016.¹²⁷ Two additional types of players are entering or are well placed to ultimately enter the Relevant Market:¹²⁸
- a. PSAPs: Eargo, Bose, Bragi and Nuheara, are already entering the market through PSAPs that can be sold over-the-counter without any prescription.
 - b. Consumer electronic giants: Technology companies such as Samsung, Philips, and Apple are well placed with their patent portfolios to push into the market and potentially offer hearing amplification products through smartphone devices. In particular, Panasonic has, since 2012, launched Bluetooth-enabled hearing aids.
82. With regard to expansion, the Parties submitted that all major manufacturers of hearing aids would have the capability to expand. Generally, sales to Singapore represent only a small proportion of all major hearing aid

¹²³ Paragraph 5.46 of the *CCCS Guidelines on the Substantive Assessment of Mergers 2016*.

¹²⁴ Paragraph 26.1 of Form M1.

¹²⁵ Paragraph 28.1 of Form M1.

¹²⁶ Paragraph 35.1 of the Parties response dated 13 September 2018 to CCCS's RFI dated 7 September 2018.

¹²⁷ Paragraph 29.1 of Form M1.

¹²⁸ Paragraph 24.6 of Form M1.

manufacturers' sales portfolios, and that an increase in production to meet any increase in demand in Singapore would only require a small portion of the existing manufacturer's excess production capacity.

Feedback from third parties

83. A third party noted that for the development of state-of-the-art hearing aids to compete in the current market, substantial investments in R&D may be required which could be a barrier of entry for smaller players.¹²⁹ However, this may not pose a barrier for large technological companies which are currently active in adjacent markets (e.g. Samsung, Apple). For the hearing aids with lower price points, the investments in R&D required are lower and hence, the barriers to entry may be proportionately lower.

CCCS's assessment

84. In relation to the regulations pertaining to hearing aids in Singapore, CCCS notes that the time and costs required to obtain the relevant licences and registration of new hearing aid products are unlikely to be significant. An application for a manufacturer's, importer's or wholesaler's licence costs \$1,000, while an application for a full priority evaluation of a Class B medical device costs \$5,300.¹³⁰ The turn-around-time for registration of the hearing aid product generally ranges between zero (i.e. immediate) to 100 working days depending on the type of application and evaluation. The turn-around-time for obtaining a dealer's licence (including manufacturer, importer and wholesaler licence) is 10 working days.¹³¹
85. In relation to intellectual property rights, the Parties submitted that all major hearing aid manufacturers are also partners to a patent pool, the Hearing Instrument Manufacturers Patent Partnership ("HIMPP").¹³² However, the Parties also noted that any hearing aid manufacturer, upon the payment of membership fees, is able to become a member of HIMPP.¹³³ In this regard, CCCS notes that third party feedback did not raise intellectual property rights as a barrier to entry.

¹²⁹ Answers to questions 18 and 20 of [3<]'s response dated 21 September 2018.

¹³⁰ Paragraph 2(b)(vi) and 6 of the Fourth Schedule to the Health Products (Medical Devices) Regulations 2010.

¹³¹ HSA Target Processing Timelines. https://www.hsa.gov.sg/content/hsa/en/Health_Products_Regulation/Useful_Information_for_Applicants/Target_Processing_Timelines.html

¹³² HIMPP consists of a number of patents and patent applications, considered to be essential for the hearing aid industry, with the purpose of establishing a platform accessible for the whole of that industry (not just HIMPP members/partners) on fair, reasonable, and non-discriminatory ("FRAND") terms.

¹³³ Paragraph 18.11 of Form M1.

86. Furthermore, CCCS notes that GN and Starkey entered the Singapore market in 2016, and appear to have increased their market shares at the expense of incumbents such as Sivantos and Widex (see paragraph 71).
87. In view of the third party feedback in paragraph 83, it appears that the barriers to entry for new suppliers who have not previously supplied hearing aids in any markets may be moderate to high given the high investment costs required to begin supplying the hearing aids. However, for an existing supplier of traditional hearing aids in other geographical markets (regardless of whether they are currently supplying in Singapore), the barriers to entry and/or expansion are likely to be lower compared to that for an entirely new supplier. The barriers for the existing suppliers of hearing aids in other geographical markets are not insurmountable. This is evident from the recent new entrants (i.e. GN and Starkey) into Singapore.

(c) Countervailing Buyer Power

The Parties' submissions

88. The Parties submitted that buyers of hearing aids from manufacturers in Singapore are generally hospitals and retailers.¹³⁴
89. Hospitals typically conduct tenders which are refreshed on a yearly or bi-annual basis.¹³⁵ Costs incurred by hospitals to switch would be minimal in this regard.
90. For retailers, as most of them already carry multiple brands of hearing aids from various manufacturers, switching is a matter of discontinuing the retail of certain brands and either introducing new brands or increasing the supply of existing brands. Costs incurred by retailers would be minimal (if any) and their business would not be disrupted.
91. The buying power of hospitals and dispensers (hearing specialists) follows from the fact that they are able to switch readily between the products of different manufacturers, ensuring that they obtain the most competitive offering from manufacturers, to the benefit of the end-user.¹³⁶ In response to any hypothetical exercise of market power by the Joint Venture, retailers and

¹³⁴ Paragraph 32.1 of Form M1.

¹³⁵ Paragraph 24.4 of Form M1.

¹³⁶ Paragraph 32.3 of Form M1.

- hospitals could simply carry and recommend other manufacturers' products instead.
92. Hospitals and retailers do not have the technical knowhow to manufacture hearing aids.¹³⁷

CCCS's assessment

93. CCCS notes that even TTSH, which is the largest customer of both Sivantos and Widex, only accounts for [3<] % and [3<] % of their respective Singapore-wide revenue.¹³⁸ Further, customers have generally not expressed that they have the ability to exert any influence over the prices and terms of sale offered by suppliers of the Relevant Product.
94. CCCS also notes that customers generally are unable to self-supply the Relevant Product, which would limit the extent of countervailing buyer power that customers can exercise on the Joint Venture.
95. Considering the information available, the evidence does not suggest that customers would be able to exercise countervailing buyer power on the Joint Venture.

VIII. Competition Assessment

(a) Non-coordinated effects

96. Non-coordinated effects may arise where, as a result of the Proposed Transaction, the merged entity finds it profitable to raise prices (or reduce output or quality) because of the loss of competition between the merged entities.¹³⁹

The Parties' submissions

Multitude of existing and potential competitors

97. The Parties submitted that at the outset, their combined market shares would be in the order of [30-40] % for 2017, and in the order of [40-50] % for 2016.¹⁴⁰ These market shares have declined sharply in recent years as a result of strong competition from alternative suppliers, including recent entrants

¹³⁷ Paragraph 32.1 of Form M1.

¹³⁸ Paragraph 46.3 of Form M1.

¹³⁹ Paragraph 5.21 of the *CCCS Guidelines on the Substantive Assessment of Mergers 2016*.

¹⁴⁰ Paragraph 34.1 of Form M1.

- GN and Starkey. The Parties submitted that these market share figures do not exceed (in the case of 2017) the CCCS's indicative market share thresholds within its *Guidelines on the Substantive Assessment of Mergers 2016* (and only marginally exceed the thresholds in respect of 2016). In this regard, the Parties are, and will continue to be post-merger, subject to a significant degree of competition from existing competitors that are reputable and have strong supply capabilities.
98. In particular, the Parties submitted that they will face strong competition from the vertically integrated Sonova and William Demant, which are two of the largest hearing aid manufacturers and distributors worldwide.¹⁴¹ The Parties also submitted that GN and Starkey are large global manufacturers and distributors that have recently entered the Singapore market and will continue to grow.
99. Moreover, the Parties are currently not each other's closest competitors. Widex considers [REDACTED] to be its closest competitors in Singapore; while Sivantos considers [REDACTED] to be its closest competitor in Singapore.¹⁴² This is due to the different route-to-market strategies that each Party adopts, meaning that their business are largely complementary:¹⁴³
- a. As Sivantos does not have a retail arm in Singapore, its business [REDACTED].¹⁴⁴
 - b. As Widex [REDACTED]. Widex also considers that its focus is [REDACTED], while Sivantos is active across all price ranges of hearing aids.¹⁴⁵
100. Accordingly, the Parties submitted that the Proposed Transaction will likely place the combined entity in a position to better compete against the strong existing competitors of Sonova and William Demant.¹⁴⁶
101. In view of Singapore's ageing population, the Parties note that the market for hearing aids in Singapore presents strong growth potential.¹⁴⁷ There is also much untapped demand in Singapore due to under-adoption – the penetration rate of hearing aids, defined as the share of hearing impaired persons using a

¹⁴¹ Paragraph 34.2 of Form M1.

¹⁴² Paragraphs 33.5 and 33.6 of Form M1.

¹⁴³ Paragraph 34.3 of Form M1.

¹⁴⁴ Paragraph 33.2 of Form M1.

¹⁴⁵ Paragraph 33.3 of Form M1.

¹⁴⁶ Paragraph 34.3 of Form M1.

¹⁴⁷ Paragraph 34.4 of Form M1.

hearing aid, is estimated at approximately 9% in Singapore and is significantly lower compared to that of 27% in Europe.

102. Further, there are also many established technology companies such as Samsung, Philips, Panasonic and Apple that are well-placed with their patent portfolios and strong overlapping capabilities to push into this adjacent market.¹⁴⁸

No barriers to entry and expansion

103. The Parties submitted that there are virtually no barriers to expansion for any existing hearing aid supplier in Singapore, since all of the existing competitors already have products registered with HSA, and have established distribution channels in Singapore.¹⁴⁹ The Parties also submitted that existing competitors generally do not face capacity constraints to expand output in response to higher demand or market prices – they can react quickly by simply increasing imports, given that, to their understanding, there are no import restrictions on hearing aids in Singapore.¹⁵⁰

104. For new entrants, product registration with HSA is a fairly straightforward process that is not unduly prohibitive, restrictive, onerous or costly, and can be completed expediently within a few months.¹⁵¹ Since the products can be imported with general ease into Singapore, coupled with the fact that many of these potential entrants have established supply chain networks within the region, it is not necessary for them to incur significant upfront capital expenditure to set up manufacturing operations in Singapore.

105. The Parties have also observed recent entrants into the Singapore market.¹⁵²

Ease of switching and countervailing buyer power

106. The Parties submitted that there is strong countervailing buyer power since the Parties infrequently bid for large tender purchases by hospitals in Singapore, without any significant exclusivity arrangements.¹⁵³ In Singapore, manufacturers compete by way of hospital tenders on a yearly or bi-annual (every two years) basis, for the chance to have their products carried and

¹⁴⁸ Paragraph 34.5 of Form M1.

¹⁴⁹ Paragraph 34.6 of Form M1.

¹⁵⁰ Paragraph 34.6 of Form M1.

¹⁵¹ Paragraph 34.7 of Form M1.

¹⁵² Paragraph 34.8 of Form M1.

¹⁵³ Paragraph 34.9 of Form M1.

therefore recommended/prescribed by doctors and/or audiometry specialists in hospitals. In this regard, Sivantos submitted that the sales of hearing aids through hospitals comprises approximately [§<] % of their total sales.

107. The Parties submitted that as a significant amount of sales in Singapore takes place through healthcare institutions and third party retailers, there is generally little brand loyalty, and few switching costs.¹⁵⁴ Because hearing aids are subsidised by the Government, healthcare institutions in Singapore are generally price sensitive as they need to maintain fiscal prudence. Given that there are many other reputable competitors in Singapore that can compete with the Parties, not just in price, but also in product quality, service levels and innovation, the healthcare institutions virtually face no switching costs when substituting from one brand to another.

No lessening of competition

108. Due to the aforementioned factors, the Parties submitted that the Proposed Transaction will not give rise to non-coordinated effects in the relevant market. The Parties will continue to operate in a market that is an open and highly contestable space, with many existing and potential competitors that can easily expand or enter the market to exert a significant pressure on a material scale.¹⁵⁵

Feedback from third parties

109. Third party feedback indicates that based on the strength of its innovation and branding, Sonova, and to some extent GN and William Demant, appear to be closer competitors to Sivantos than Widex is.¹⁵⁶
110. Third party feedback suggests that Sivantos's and Widex's traditional hearing aid products are unlikely to be "must-have" products across the industry as comparable products are supplied by the main suppliers of traditional hearing aid products.¹⁵⁷ Thus, hospitals procure a range of traditional hearing aid products from different suppliers;¹⁵⁸ while third party

¹⁵⁴ Paragraph 34.10 of Form M1.

¹⁵⁵ Paragraph 34.11 of Form M1.

¹⁵⁶ Answer to question 22(a) of [§<]'s response dated 24 September 2018; Answer to question 15 of [§<]'s response dated 21 September 2018.

¹⁵⁷ Answer to question 22 of [§<]'s response dated 24 September 2018; Answer to question 22 of [§<]'s response dated 17 September 2018; Answer to question 23 of [§<]'s response dated 24 September 2018; Answer to question 10 of [§<]'s response dated 21 September 2018.

¹⁵⁸ Answer to question 3 of [§<]'s response dated 24 September 2018; Answer to question 5 of [§<]'s response dated 17 September 2018.

retailers have the choice whether to carry Sivantos's products, evident by the presence of retailers who carry multiple brands or single brand which may or may not include Sivantos's products¹⁵⁹ (it is noted that Widex sells through its own retail channel).

111. Feedback from third parties further suggests that there are sufficient alternative suppliers of traditional hearing aids that customers can switch to and it is not too difficult to switch suppliers even after the Proposed Transaction.¹⁶⁰ Another third party noted that different user experiences may cause some difficulties for some users when switching from one supplier to another, but this is not expected to be more difficult for users as a result of the Proposed Transaction.¹⁶¹
112. A third party also commented that new entrants such as GN and Starkey appear to have encroached on the market shares of the incumbent Sivantos in the few years since they entered the Singapore market.¹⁶²

CCCS's assessment and conclusion on non-coordinated effects

113. CCCS is of the view that Sivantos and Widex are unlikely to be each other's closest competitor in the Relevant Market for the following reasons:
- a. First, as noted in paragraph 73 and Table 6 above, based on the Parties' and third parties' estimates, the market shares of suppliers such as Sonova and William Demant are closer to Sivantos than that of Widex. Similarly, as noted in paragraph 76 and Tables 7 and 8, the *actual* volume sales of [REDACTED]. The *actual* value sales of [REDACTED]. Hence, suppliers such as Sonova and William Demant are potentially closer competitors to Sivantos than Widex.
 - b. Second, based on the *actual* volume and value sales provided by the Parties, for the years 2015 to 2017, the average price per unit of hearing aid sold by Sivantos was about S\$[REDACTED], S\$[REDACTED] and \$[REDACTED] respectively, while that for Widex was higher at about S\$[REDACTED], S\$[REDACTED] and \$[REDACTED] respectively.¹⁶³ This seems to corroborate the Parties's submission that Widex is focused on the [REDACTED], while Sivantos is

¹⁵⁹ Answer to question 23 of [REDACTED]'s response dated 24 September 2018.

¹⁶⁰ Answers to questions 23 and 34 of [REDACTED]'s response dated 21 September 2018; Answers to questions 23 and 34 of [REDACTED]'s response dated 24 September 2018; Response from [REDACTED] dated 20 September 2018; Answers to questions 23 and 34 of [REDACTED]'s response dated 24 September 2018.

¹⁶¹ Answer to question 16 of [REDACTED]'s response dated 21 September 2018.

¹⁶² Answer to question 3 of [REDACTED]'s response dated 24 September 2018.

¹⁶³ The price per unit figure was estimate by dividing the value sales by the volume sales of the traditional hearing aids (including body-worns) as provided by the Parties in paragraphs 21.2 and 21.3 of Form M1.

present across a range of price points. This further suggests that the Parties are not each other's closest competitor in terms of pricing; and

- c. Finally, third party feedback (see paragraph 109) noted greater differences in branding and innovation between Sivantos and Widex, than between Sivantos and other suppliers such as Sonova or William Demant. This further suggests that the Parties are not each other's closest competitor in terms of branding and innovation.
114. In summary, given that Sivantos and Widex are unlikely to be each other's closest competitor, and the assessment on the barriers to entry and expansion (paragraph 87), CCCS is of the view that it is unlikely that the Proposed Transaction will give rise to non-coordinated effects which lead to SLC concerns in the Relevant Market.

(b) Coordinated effects

115. A merger may also lessen competition substantially by increasing the possibility that, post-Transaction, firms in the same market may coordinate their behaviour to raise prices, or reduce quality or output. Given certain market conditions, and without any express agreement, tacit collusion may arise merely from an understanding that it will be in the firms' mutual interests to coordinate their decisions. Coordinated effects may arise where a merger reduces competitive constraints from actual or potential competition in a market, thus increasing the probability that competitors will collude or strengthening a tendency to do so.¹⁶⁴

The Parties' submissions

116. The Parties submitted that the Proposed Transaction will not result in any increase in the risk of coordinated effects, given that:¹⁶⁵
- a. The Parties and other competitors are not able to align their behaviour in the market;
 - b. The Parties and other competitors do not have the incentive to maintain coordinated behaviours, as there is no credible deterrent mechanism that can be activated if deviation is detected; and

¹⁶⁴ Paragraph 5.35 of the *CCCS Guidelines on the Substantive Assessment of Mergers 2016*.

¹⁶⁵ Paragraph 35.2 of Form M1.

- c. Coordinated behaviour is not sustainable in the face of other competitive constraints in the market.

117. This is in view of the following:¹⁶⁶

- a. The market will remain extremely competitive post-Transaction and the presence of a large number of existing competitors in the market of varying scale of operations means that it would not be possible for the Joint Venture to arrive at an alignment or coordination of its behaviour with other competitors. Any prospect of collusion is untenable or unsustainable;
- b. Healthcare providers, who are the main bulk purchasers of hearing aids, can switch easily between the various suppliers available to them in the market;
- c. Strong pressure for competitors to consistently innovate as evident in short product life-cycles. Such volatility makes coordination virtually impossible; and
- d. Barriers to entry and expansion into the relevant market are low. Any coordinated behaviours may be easily disrupted by an opportunistic new entrant.

CCCS's assessment and conclusion on coordinated effects

118. Third party feedback also suggests that suppliers of traditional hearing aids compete aggressively¹⁶⁷, indicating that there is scope for, or pressure on, suppliers to introduce improvements into the market, making current products obsolete more quickly and reducing the profitability of collusion.

119. The presence of some degree of product differentiation suggests that suppliers may have limited ability to align behaviour. The entry of new players in the market (e.g. GN and Starkey), and differences based on innovation and performance, such as recharging capabilities and connectivity to devices (e.g. mobile phones and televisions) would tend to make coordination between market players more difficult.¹⁶⁸ Hence, the

¹⁶⁶ Paragraph 35.3 of Form M1.

¹⁶⁷ Answer to question 6(a) of [3<]’s response dated 24 September 2018; Answer to question 6(a) of [3<]’s response dated 21 September 2018; Answer to question 19 of [3<]’s response dated 21 September 2018.

¹⁶⁸ Answer to question 6 of [3<]’s response dated 24 September 2018; Answer to question 6 of [3<]’s response dated 21 September 2018; Answer to question 6 of [3<]’s response dated 21 September 2018.

information available does not suggest that the Proposed Transaction will likely give rise to coordinated effects in the Relevant Market.

(c) Vertical effects

120. In relation to vertical effects, CCCS will assess whether the merger may involve market foreclosure (e.g. by raising rival's costs of access to a necessary input of customers or refusing to supply them completely), or increase the ability and incentive of parties to collude in the market.¹⁶⁹

The Parties' submissions

121. The Parties submitted that both Sivantos and Widex have only a minor amount of retail activity in a small number of countries.¹⁷⁰ In particular, Sivantos has no retail presence in Singapore, while Widex has a total of three retail outlets.¹⁷¹
122. Accordingly, the Parties submitted that the Proposed Transaction is not likely to give rise to any vertical issues as (i) Sivantos and Widex do not overlap in their activities in the retail sector in Singapore, and (ii) the combined retail activities of both Sivantos and Widex is currently limited to a total of three retail outlets.¹⁷²

CCCS's assessment and conclusion on vertical effects

123. With respect to customer foreclosure, CCCS is of the view that the Proposed Transaction would not result in the Joint Venture having sufficient market power in the upstream market (i.e. the supply of the Relevant Product) to foreclose competitors in the downstream market (i.e. the retailing of the Relevant Product).
124. With respect to input foreclosure, CCCS notes that the Joint Venture will only be vertically integrated with three retail outlets (as contributed by Widex) out of the numerous other retail outlets which operate in Singapore. In this regard, CCCS is of the view that the Proposed Transaction will not result in the Joint Venture having control over a substantial portion of the retail channel such that it is able to foreclose its competitors upstream.

¹⁶⁹ Paragraph 6.9 of the *CCCS Guidelines on the Substantive Assessment of Mergers 2016*.

¹⁷⁰ Paragraph 36.1 of Form M1.

¹⁷¹ Paragraph 36.2 of Form M1.

¹⁷² Paragraph 36.3 of Form M1.

125. In light of the above, CCCS is of the view that the Proposed Transaction is unlikely to result in SLC in relation to vertical effects.

IX. Efficiencies

The Parties' submissions

126. The Parties submitted that the main driver of the Proposed Transaction is to enable the Sivantos and Widex to remain competitive in the future. The Parties further expect substantial synergies from a combination of the respective businesses of Sivantos and Widex that will enable them to enhance price competitiveness by reducing R&D costs per unit (through cost dilution) and by reducing manufacturing costs (thus potentially leading to volume increases). Moreover, the Joint Venture will lead to the creation of a strengthened R&D department capable of accelerating the pace of innovation across audiology, connectivity and digital integration, giving the Joint Venture the ability to develop specialized solutions for sub-segments of the market (e.g. Paediatric, Tinnitus, PSAP'S/wearables).¹⁷³
127. The Parties submitted that under the Joint Venture, [§<].¹⁷⁴
128. The Parties submitted that they expect synergies from¹⁷⁵:
- a. **R&D:** The Parties plan to significantly invest in R&D (also in their stand-alone plans) and R&D spend is envisaged to increase every year. Nevertheless, significant synergies can be generated from a review of R&D pipelines in order to identify comparable projects, [§<]. Sivantos and Widex intend to keep the "best capabilities", and to eliminate overlaps where appropriate.
 - b. **Cost reductions:** The Parties expect substantial reductions in costs from a combination of the businesses of Sivantos and Widex. Those reductions will include the set-up of a cost-efficient manufacturing network with combined manufacturing sites and consolidated hubs and an aligned logistics system to lower cost, complexity, and delivery times. Further reductions will result from larger purchasing volumes (resulting in better conditions and volume discounts). Additional reductions in costs will result from [§<]. [§<].

¹⁷³ Paragraph 42.1 of Form M1.

¹⁷⁴ Paragraph 42.2 of Form M1.

¹⁷⁵ Paragraph 42.3 of Form M1.

CCCS's assessment

129. Given that the above competition assessment did not raise SLC concerns in the Relevant Market, CCCS is of the view that it is not necessary to make an assessment on the claimed efficiencies by the Parties.

X. Conclusion

130. Based on a holistic consideration of the information, submissions, third party feedback and evidence available, CCCS is of the view that the Proposed Transaction is unlikely to result in SLC in the Relevant Market. As such, the Proposed Transaction, if carried into effect, will not infringe section 54 of the Act.

131. For the purposes of section 57(7) of the Act, this decision shall be valid for a period of one year from the issuance date of this decision.



Toh Han Li
Chief Executive
Competition and Consumer Commission of Singapore