

**FOR PUBLICATION**

**DECISION**

in the administrative (merger control) proceedings

(excerpts)

parties concerned:

1. Phonak Holding AG, Stäfa, Switzerland
2. GN ReSound A/S, Ballerup, Denmark
3. GN ReSound GmbH Hörtechnologie, Münster, and
4. GN US Holdings Inc., MN, USA
5. GTN Store Nord A/S, Ballerup, Denmark

The Bundeskartellamt prohibited the planned merger of Phonak/GN ReSound on 11 April 2007. The following reasons were significant for this decision:

**I. Merger project and proceedings**

In a letter from an attorney dated 8 November 2006, which arrived here on 10 November 2006, Phonak Holding AG, Stäfa, Switzerland (hereinafter referred to as Phonak) notified its plans to purchase the enterprises GN ReSound A/S, Ballerup, Denmark, GN ReSound GmbH Hörtechnologie, Münster, and GN US Holdings Inc., MN, USA, from GN Store Nord A/S, Ballerup, Denmark. The enterprises to be purchased (hereinafter referred to as GN ReSound) currently comprise GN Nord A/S's hearing aid operating area. They operate in developing, manufacturing and selling hearing aids and hearing aid accessories and in audiological diagnostic equipment.

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In order to prevent the impending merger prohibition and a subsequent legal dispute, Phonak, one of the enterprises involved in the merger, submitted commitment offers in a letter dated 20 March 2007. In its view, the Bundeskartellamt is obliged to accept these remedies on account of principles of proportionality under constitutional and international law and to allow the project to go ahead subject to relevant conditions. GN Store Nord A/S associated itself with these remedies in a letter of 21 March 2007, while at the same time denying that the merger project would change the competition situation in Germany. The proposed remedies that would enable the project to be approved were discussed in talks with the parties to the merger on 30 March 2007. During these talks, the Decision Division signalled to the enterprises involved that it considered the proposed remedies to be insufficient to remove the competition concerns against the merger. The parties to the merger thereupon declared major parts of the remedies to be a business secret and refused to allow a market test to be carried out.

## **II. Enterprises involved**

**Phonak** functions as a holding company without any business operations of its own. Its subsidiaries develop, manufacture and sell hearing aids under the brand names Phonak and Unitron Hearing as well as additional hearing aid equipment (mainly wireless signal transmitters, so-called "FM equipment").

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**GN ReSound** produces and sells hearing aids and audiological diagnostic equipment. The enterprise has taken over a number of competitors in recent years. These include Danavox, ReSound, Beltone, Viennatone, Philips and Interton. Today, GN ReSound supplies hearing aids in Germany under the GN ReSound, Beltone and Interton brands. Its subsidiary GN Otometrics operates in the field of audiological diagnostic equipment...

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The third party participating in the action, **Siemens AG**, is the ultimate parent company of a group operating world-wide, among other things in the electronics and electrotechnology sectors. In the hearing aid sector, Siemens operates through its subsidiary Siemens Audiologische Technik GmbH ("**SAT**"), Erlangen, and it supplies hearing aids under the Siemens, Audio Service and Hansaton brands. It also supplies audiological measurement equipment...

## **III. Formal examination**

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## **IV. Substantial prohibition conditions**

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The merger project fulfils the conditions for prohibition under Section 36 Paragraph 1 clause 1 of the ARC as the creation of a dominant oligopoly in the domestic market for the manufacture and sale of hearing aids through hearing aid retailers is to be expected. To date, evidence that there would be improvements in the conditions of competition that would outweigh the disadvantages of dominance have not been presented, nor are they apparent.

#### **1. No obstacle to obtaining a prohibition order through higher-status law**

In the view of the parties to the merger, the Bundeskartellamt has no prohibitory power in the present case for reasons based on international law. They argue that the effects doctrine not only contains legitimation for the application of German law, but also a limitation. They claim that the effects doctrine is only within the framework of the ban on non-intervention, which has higher status pursuant to Article 25 of the Basic Law, if the application of domestic law and the measures based thereon are limited to these domestic effects. If the merger project is not divisible into a domestic and a foreign part, they argue, prohibitory power is inapplicable to the entire case.

The parties to the merger have also stated that the target enterprise only earns less than [ $>0-10\%$ ] of its global turnover in Germany. In all the other jurisdictions, the project is not subject to a notification requirement or – where the respective merger control regime provides for clearance as a condition for completion of the merger – it has already been cleared. In the present case, say the parties to the merger, the focus of the merger is clearly not in Germany. Thus, there are no prohibitory powers for the whole merger.

In the view of the Decision Division, the facts that constitute the legal elements of the infringement referred to in Section 36 Paragraph 1 ARC have been fulfilled. The domestic effect of the project (Section 130 Paragraph 2 of the ARC) is undisputed, even though the merger project was initiated abroad. As a bound decision, the legal consequence prohibiting the merger required by the regulation is not at the discretion of the Decision Division. Nor is there any scope for considering that the national interest in the prohibition might be evaluated as being of lower status than the non-intervention ban under international law.

The merger prohibition neither infringes general rules of international law (Article 25 of the Basic Law), nor does it interfere disproportionately in legal positions of the parties to the merger that are guaranteed in fundamental laws.

The general principles of international law include the prohibition of abuse of a dominant position or interference as well as the effects doctrine. The question of whether it is necessary to limit the prohibition to an identifiable domestic part on the basis of constitutional provisions when mergers can be divided does not arise here, since the merger is not geographically divisible in this way. If the merger is not divisible, however,

what is probably the prevailing view assumes that there is a general prohibitory power for the merger as a whole in order to apply the purpose of Section 36 Paragraph 1 of the ARC.<sup>1</sup>

The main operations of Phonak and GN ReSound in Germany are sales structures for product development and production sites abroad. Limiting the prohibitory decision to the domestic effects would be ineffectual here on account of vagueness. Phonak's operating area of hearing aids in Germany operates exclusively in sales, and the acquiring company GN ReSound operates mainly in sales. Only GN ReSound's subsidiary Interton also has domestic production capacities. Moreover, it also does not appear to be possible to hive off GN ReSound's competitive potential through separating off its German hearing aid business, which is essentially non-producing, for the following reasons:

- GN ReSound's business potential in Germany is not substantially determined by its subsidiary Interton. Only 20 to 25 per cent of GN ReSound's domestic turnover from hearing aids derives from Interton hearing aids.
- Another reason why hiving off GN ReSound's domestic sales activities will not lead to a separation of the competitive potential behind GN ReSound's domestic market share is that its entrepreneurial core business does not lie in sales, but in developing and manufacturing products, in the available patent and product portfolio and in the parent company's positioning through its branding strategies.

The effects on the territory of the Federal Republic of Germany are thus an objectively required jurisdictional basis within the meaning of international law. This merger would lead to considerable increases in market share in the product market concerned and to the creation of a dominant oligopoly.

The parties to the merger have a combined domestic turnover of [€ 70 to € 100 million], amounting to a proportion of approximately 20 per cent of their turnover within the EU. Germany is also the world's second-largest hearing aid market measured by turnover. Consequently, the merger's clear economic focus as far as Europe is concerned is in Germany. Thus, it is not evident that domestic interest in the merger is greater than the interest of countries such as those where the parties to the merger have their headquarters (Switzerland, Denmark). After considering the interests involved, it is evident that Germany, as the world's second-largest hearing aid market, has a considerable interest in fending off dangers to the domestic structure of competition, which is not opposed by any other significant national interests.

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<sup>1</sup> *Stadler* in Langen/Bunte, Section 130 marginal note 192; *Rehbinder* in Immenga/Mestmäcker, Section 130 Paragraph 2 marginal note 193f. referring to the Bundeskartellamt, 15 April 1992, Wirtschaft und Wettbewerb/Entscheidungssammlung 2521, 2524 – Zahnradfabrik Friedrichshafen/Allison; Bundeskartellamt 23 July 1992, AG 1992, 363, 367 – Gillette/Wilkinson; Meesen, Zeitschrift für das Handelsrecht 143 (1979), 281; *idem*, Kollisionsrecht, p. 17 ff.; Beck p. 116; Harms in GK Einl. Zus-Kontrolle marginal note 154, Schnyder p. 380f.

Nor can the applicability of national merger control be made to depend on the coincidental choice of seat of the participating enterprises or the scope of their business activities. In a globalised world, it is the rule that enterprises that are required to notify mergers in Germany on account of them exceeding the threshold values laid down in Section 35 of the ARC both have business locations and also considerable turnover in many countries of Europe and around the world. If the application of the ARC were to fail because Phonak has its headquarters in Switzerland or the enterprises involved sell their hearing aids world-wide, it would be possible for the enterprises to instrumentalise international law against the application of national competition rules at any time. The result would be that there would no longer be any way of enforcing competition law nationally. Since there is no supranational competition law with the exception of EU law, however, enterprises such as Phonak and GN ReSound would largely evade the effective application of competition law.

The prohibition of the merger does not affect legal positions of the parties to the merger that are guaranteed under the Basic Law (Article 2 Paragraph 1, Article 12 Paragraph 1, and Article 1 Paragraph 1 of the Basic Law).

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Thus, the prohibition of the merger is not disproportionate overall and it conforms to the constitutional order (Article 20 Paragraph 3 of the Basic Law). The prohibition is a special measure under the administrative rules that is suitable, necessary and appropriate for preventing the specific danger of the creation of a dominant position. There is no obvious more moderate way of preventing this danger. In particular, it is not possible to separate the German part of the merger in an economically sensible way, as within Germany, it is practically only sales structures that are affected.

## **2. Investigations**

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## **3. Definition of product market**

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According to the results of the investigations, the project relates to the domestic product market for the manufacture of hearing aids and their sale to hearing aid retailers.

### **3.1 General product and market information**

#### **3.1.1 Hearing loss and hearing aids**

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**Hearing aids** are items of electronic equipment that improve the hearing function of the hearing-impaired by amplifying incoming acoustic signals. The interplay between hearing

aid technology and the audible impression – e.g. filtering out "useful signals", improving the comprehensibility of speech and enhancing hearing comfort in difficult hearing situations – is a field of work of *audiology*.

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### 3.1.2 Analogue and digital hearing aids

The hearing aid product market is technically divisible into (a) digital, (b) digitally programmable analogue and (c) analogue hearing aids.

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Integrated microchips comprise the main component of a digital hearing aid. They control signal processing. These microchips are extremely small and process several million transactions per second. So-called adaptation algorithms are installed on the microchips, which determine a particular hearing aid's digital signal transmission and performance range. The reputed manufacturers either use so-called DSP microchips or ASIC microchips. The main difference between them concerns the technology of the adaptation algorithm's programmability (e.g. new functions and programs), but according to the Decision Division's investigations, they are of equal quality with regard to their application range and performance.

Audiologists use so-called **adaptation software** to adapt the hearing aids precisely and quickly to the amplification requirements of hearing-impaired individuals. This is provided to them free of charge by the respective manufacturer.

In Germany, digital hearing aids dominated the market in 2006 with a share of more than 90 per cent of the market volume.

### 3.1.3 In-the-ear ("ITE") and behind-the-ear ("BTE") equipment

In the case of **ITE (in-the-ear) hearing aids**, the electronic components (which are either fully digital, analogue digitally programmable or analogue), 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. This involves the audiologist making an ear impression of the customer's auricle and enclosing it with the order for an ITE aid. There are three different kinds:

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In the case of **BTE (behind the ear) hearing aids**, the hearing aid is integrated into a case that is worn behind the ear. The ear fitting in the ear ensures that the hearing aid has been put on correctly. Since the electronics are in the hearing aid that is worn behind the ear, the ear fitting is considerably smaller than the otoplastic in ITE hearing aids. The sound is transmitted to the ear fitting from the hearing aid via a thin plastic tube.

Due to the open construction of BTE equipment, their hearing comfort is considerably greater than that of ITE equipment (see also the *digression on "open fitting"* below). Also, BTE hearing aids are becoming ever smaller and they "disappear" behind the ear so that the advantages of ITE equipment in this connection are increasingly being superseded through product developments in BTE hearing aids. The share of BTE hearing aids in Germany is more than 90 per cent of the market volume...

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### **3.1.4 Partially implanted hearing systems**

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### **3.1.5 The digitalisation of hearing aids**

The market for hearing aids has been revolutionised by digitalisation. There has been a major improvement in the compensation of hearing loss through wearing hearing aids with digital signal transmission and processing. This fundamental surge of innovations is now practically over. Digital hearing systems have developed to become the standard in the industry.

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### **3.1.6 Focal areas of development in hearing aids**

The market for hearing aids has meanwhile entered a maturation phase; genuine developments of *new* products are unlikely. Thus, the hearing aid market today differs from markets in the expansion phase that are just beginning to develop and which are developing so fast that their market shares and market leadership are still unstable or impossible to ascertain. That does not mean that the hearing aid market does not continue to be open to innovations in the sense of product *refinements*. There is diverse development potential. It will not revolutionise the hearing aid market like digitalisation did, however, but will lead to a further improvement and optimisation of existing digital technology (e.g. improved algorithms for signal amplification and processing). There is little difference between the capacities for development of the different hearing aid manufacturers; real technological advances are the exception.

According to the investigations, the status of technical development and the specific technical development potential currently lie mainly in the following areas:

- high occlusion-free sound quality (open fitting)
- sound smoothing (impulse-sound suppression).
- longer battery life,
- data learning and data logging,

- automatic microphone adjustment (e2e)
- further development of directional microphones and
- wireless transmission procedure for data and automatic signals, both between two hearing aids (see above) and also between external electronic components and hearing aids (bluetooth technology, FM systems etc.).

Hearing aid manufacturers produce some existing products under a different product name without there being any new innovative or patented functions. Phonak referred to its own product Perseo as an example of this kind of product strategy.

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In the view of the parties to the merger, purely subjective and largely unpatented “feel-good factors” currently determine the market success of hearing aids, as well as the above-mentioned technological innovations...

These include miniaturised casings (“sleek, smooth and feather-light”), elegant and modern designs, attractive high-tech colours and visually more attractive hearing aids. This suggests that the hearing aid market has entered a phase of technical and optical optimisation, particularly in the last few years, and that surges of innovations, like those that may be observed in young markets during the development and experimental stage, are no longer likely.

### **3.1.7 Accessories and other audiological equipment**

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### **3.1.8 Reimbursement system in Germany**

Section 33 of the Fifth Book of the Social Code is the legal basis for the financing of hearing aids by the statutory health insurance schemes. In accordance with the documentation issued by an ear, nose and throat (ENT) doctor that the patient’s hearing is improved, the **statutory health insurance scheme** reimburses a **fixed amount**, currently amounting to approx. € 420 in the case of binaural provision (i.e. on both sides) and approximately € 335 in the case of the second hearing aid. In addition, a lump sum for repairs amounting to between € 170 and € 190 is reimbursed. Patients usually have to pay for consumable articles (care products, batteries etc.) themselves. The fixed amounts are reimbursed regardless of the final price of the hearing aid. After being fitted by the audiologist, the final price for a basic item of equipment (with a list price of up to € 200) corresponds exactly to the fixed amount. In the high-end sector, it is between € 2,000 and € 4,000, depending on its features. ...

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### **3.1.9 ZVEI notification system and price segments**

All hearing aid manufacturers that sell their hearing aids to hearing aid retailers are members of the ZVEI – the Zentralverband Elektrotechnik und Elektrotechnikindustrie e.V. (German Electrical and Electronic Manufacturers' Association), Frankfurt/Main (hereinafter referred to as ZVEI). They provide ZVEI or the German Medical Technology Association within the ZVEI with detailed monthly information on their own sales volume and turnover from hearing aids. The main information provided is the sales volume and turnover per month for

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The ZVEI notification system has existed at this level of detail since 2002.

In Germany, the price segments defined within the context of this notification system are the basis for placing hearing aids into product categories. In 2002, manufacturers redefined the price segments as follows:

- hearing aids with a list price of more than € 900 ("high-end products"),
- hearing aids with a list price of between € 751 and € 900 ("business class"),
- hearing aids with a list price of between € 601 and € 750 ("comfort class"),
- hearing aids with a list price of between € 401 and € 600 ("economy class"),
- hearing aids with a list price of between € 201 and € 400 ("economy class"),
- hearing aids with a list price of up to € 200 (basic aids, not subject to a supplementary fee).

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## **3.2 Uniform relevant product market for hearing aids**

In the view of the parties to the merger, it may be assumed that there is one single hearing aid market.

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### **3.2.1 No separate markets for analogue and digital hearing aids**

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### **3.2.2 No separate markets for BTE and ITE hearing aids**

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### **3.2.3 No separate markets for the individual price segments**

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### **3.3 Separate market for the sale of hearing aids to hearing aid retailers**

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## **4. Geographic market definition**

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At present, the Decision Division presumes that the geographic market for the manufacture of hearing aids and their sale to hearing aid retailers is to be defined nationally from an economic point of view.

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### **4.1 Significance of national sales systems**

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### **4.2 Significance of local care**

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### **4.3 Actual buying patterns of purchasers**

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### **4.4 Prescription and reimbursement system in comparison with other European countries**

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### **4.5 Manufacturers' sales prices in comparison with other European countries**

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## **5. Results of the product and geographic market definition**

In the view of the Decision Division, the merger project thus affects the market for the manufacture of hearing aids and their sale to hearing aid retailers. This market is geographically limited to Germany.

## **6. Effects of the merger**

It is likely that the merger would lead to the hearing aid manufacturers SAT, Oticon and Phonak acquiring a dominant oligopolist position in the German market for the manufacture of hearing aids and their sale to hearing aid retailers (Section 36 Paragraph 1 and Section 19 Paragraph 3 Sentence 2 of the ARC).

## 6.1. Market structure and conditions of competition before the merger

The relevant market displays a number of specific competition-related features that promote oligopolist parallel behaviour. In particular, these include the following circumstances:

- There is a very high **level of concentration** in the hearing aid market. The three leading suppliers SAT, Phonak and Oticon have a joint market share in Germany of more than 80 per cent. That means that even the so-called "narrow" **presumption of oligopoly** referred to in Section 19 Paragraph 3 Sentence 1 Item 1 of the ARC is exceeded by more than 30 per cent in the present case. This large joint market share goes hand in hand with a very large market share lead over their closest competitors; their market share lead over their closest competitors GN ReSound (number 4) and Widex (number 5) is well over 70 per cent in each case.
- The manufacturers are closely linked with one another through **contractual and in some cases business relationships covered by company law** (mainly through joint ventures and licensing agreements). These business relationships and cooperations directly affect the market for hearing aids and have led to the development of joint industrial standards and a pooling of industrial property rights. As a result, the oligopolists are in lockstep with one another in terms of their technology and product branding.
- The hearing aid manufacturers have created an extensive **market information system**. On account of their monthly notifications to ZVEI of the turnover and numbers sold and ZVEI's monthly assessments, the participating enterprises receive a very detailed survey among other things of the sales volume, manufacturers' selling price and turnover in each of the different price segments for digital hearing aids. This ensures that competitors quickly become aware of changes in their own market share and their competitors' competitive advantages, impeding competition. Also, the ZVEI notification system results in very asymmetrical market transparency to the advantage of the hearing aid manufacturers and to the detriment of hearing aid retailers and the final customers of hearing aids.
- Since digital hearing aids became established, innovation in the market has slowed down and the market has meanwhile reached the **maturity stage** where genuine *new* product developments are no longer likely. That does not mean that the hearing aid market does not remain open to innovations in the sense of product refinements. These innovations are achieved through improving and optimising existing technology, however. Hearing aid manufacturers are very close to one another in their capacity for development. The Decision Division does not overlook the fact that

technological and aesthetic improvements in digital hearing aids are repeatedly brought onto the market. However, these improvements can be made quickly by all the oligopolists, with the result that competition for introducing new product families does not permanently change the balance of power within the oligopoly in a way of relevance to the issue.

- The conditions of **supply and demand** in the relevant market are stable.
  - The suppliers in the market are all established and have been operating in the relevant market for more than 10 years. According to the hearing aid manufacturers asked, there have been practically no market entries in recent years. Rather, the market has seen considerable consolidation due to company takeovers, with five significant suppliers now existing in Germany.
  - Demand does not depend on economic cycles, although only a small share of the potential market for hearing aids has been exhausted. Due to the high level of stigmatisation involved in wearing a hearing aid, hearing-impaired individuals who actually purchase a hearing aid are usually absolutely dependent on such equipment. Thus, there are hardly any alternative products or the possibility of delaying purchase by any length of time.

The fact that suppliers have to a very great extent adapted to these conditions of competition favours oligopolist parallel behaviour, which suggests that SAT, Phonak and Oticon already constituted a dominant oligopoly before the merger, although some market conditions currently also suggest that there is competition within the oligopoly. In the end, it is an open question whether or not there was still any major competition within the oligopoly even before the merger. In any case, the merger between Phonak and GN ReSound would further reduce any impetus for competition that still exists within the market. At any rate, the merger creates market conditions on the basis of which it is unlikely that there would be any major competition between the hearing aid manufacturers SAT, Phonak and Oticon in the future. This lack of internal competition corresponds to the outstanding market position of the oligopoly vis-à-vis the remaining suppliers of hearing aids operating in the market.

### **6.1.1 Market shares**

According to the results of the market survey, a maximum of nine enterprises or groups of enterprises operate to any significant extent in the relevant German supply market for hearing aids to hearing aid retailers (hereinafter referred to as hearing aid market). The total market volume for the manufacture of hearing aids and their sale to hearing aid retailers in Germany in 2006 was approx. € 205 million.

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### 6.1.1.1 Current distribution of market share

According to the Decision Division's investigations, the following market structures existed in the German market in 2006:

**Table 7: Market shares 2006**

	<b>2006</b>
	in %
1 SAT	32.5-37.5
2 Phonak	20-25
3 Oticon	20-25
<b>Total 1-3</b>	<b>81.1</b>
4 GNReSound	5-10
5 Widex	5-10
6 bruckhoff	<2.5
7 Starkey	<2.5
8 Audifon	<1
9 Acousticon	<1
Total	100%

According to this information, the three manufacturers SAT, Phonak and Oticon had a joint market share in Germany of more than 80 per cent before the merger. Thus, even the so-called "narrow" presumption of oligopoly of Section 19 Paragraph 3 Sentence 2 Item 1 of the ARC is exceeded by more than 30 per cent in the present case.

This large joint market share goes hand in hand with a very large gap between the oligopoly's market shares and those of its closest competitors; the gap between the oligopoly's market share and those of its competitors GN ReSound (number 4) and Widex (number 5) is more than 70 per cent in each case.

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The range of alternatives open to the opposite side of the market is considerably limited in view of the interaction deriving from the very significant market leadership of the leading three suppliers and the very large gaps between their market shares and those of their closest competitors.

### 6.1.1.2 The oligopoly's symmetry

First of all, the **market share distribution** within the oligopoly is not symmetrical. SAT's market share is 10 to 15 per cent above the market shares of its nearest competitors Phonak and Oticon.

In itself, this does not contradict the existence of a dominant oligopoly. Oligopolies are possible even between enterprises with very different market shares. Basically, an

oligopolist is defined by its conduct and not by criteria such as market shares or ownership structure. Symmetries in these criteria are neither necessary nor sufficient for presuming that there actually is collusion. Conversely, asymmetries do not indicate that there is no collusion.<sup>2</sup>

The asymmetries deriving from the market shares are also not an appropriate reflection of the entrepreneurial balance of power between the oligopolists SAT, Phonak and Oticon in the hearing aid market. This is because corporate data ascertained in this case show that the balance of power between the oligopolists SAT, Phonak and Oticon is quite balanced in the hearing aid market.

- The **total turnovers achieved** in the global hearing aid business are comparable. ...
- The three leading manufacturers constitute an oligopoly not only in Germany but also **throughout Europe and around the world.** ...
- The **production costs** for all hearing aids sold (machines, wages, overheads etc.) are approximately 25 to 35 per cent of turnover for all three oligopolists. Each of them has cost-effective production sites in China or Poland.
- The **costs of R&D**, including the relevant expenses for licence fees, are between 5 per cent and 10 per cent of turnover for each of them. They are thus at the level of the average costs of R&D of medical technology enterprises.
- The **marketing costs** of all three oligopolists amount to some 20 to 30 per cent of their turnover.
- All the members of the oligopoly have at least two hearing aid brands, enabling them to apply a **multi-brand strategy** to the market.
- ...According to a company report by Dansk Equities for William Demant dated 10 October 2006, the **gross margins** of Oticon and Phonak are 69 per cent and 67 per cent respectively. According to the information available, SAT's gross margin, which is not published, is approximately [...] and it is thus slightly lower than the indicators for Phonak and Oticon. Thus, Phonak, Oticon and Siemens are to be regarded as being in the leading group of medical technology undertakings. The indicators of the oligopoly members are thus not only very similar to one another, but also indicate that the enterprises are extraordinarily profitable in comparison with other sectors.
- ...

In 2006, the EBITDA of SAT, Oticon and Phonak were between 25 per cent and 35 per cent of turnover. Phonak's EBITDA grew strongly between 2003 and 2006, closing

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<sup>2</sup> See here also the Monopolies Commission, Main Report 2004/2005 "Mehr Wettbewerb auch im Dienstleistungssektor!", Baden-Baden 2006, marginal note 505ff.

the gap with the EBITDA values of Oticon and SAT. Thus, the profitability indicator of these enterprises is also very comparable, confirming the high profit margins achieved by the members of the oligopoly with their products around the world.

Thus, the result is that although the market share distribution is not symmetrical, the three oligopolists' entrepreneurial resources in the hearing aid sector are very similar. That applies not only to their turnovers, but also to the cost structures and key indicators on the operational success of SAT, Phonak and Oticon.

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### 6.1.1.3 Development of market shares

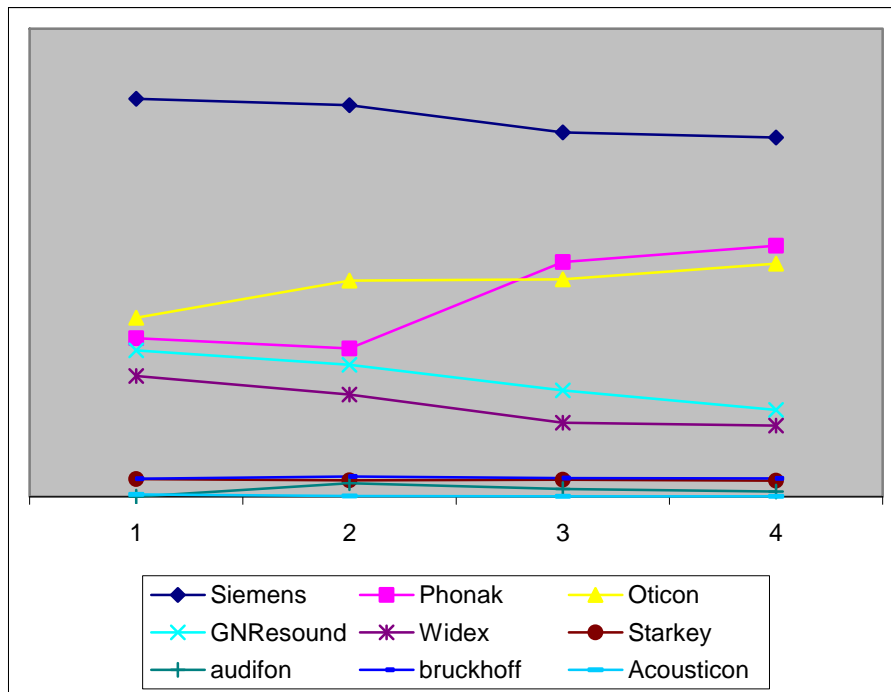
#### (1) Overall market observation

The oligopoly's market share has grown quite considerably since 2003 from just over 70 per cent in 2003 to more than 80 per cent in 2006. The market shares of the next-closest competitors GN ReSound and Widex both fell by nearly half between 2003 and 2006.

**Table 8: Market share development between 2003 and 2006**

<b>Germany</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Market volumes (in millions of €)</b>	<b>209</b>	<b>197</b>	<b>201</b>	<b>205</b>
<b>Market shares</b>	in %	in %	in %	In %
1 Siemens	35-40	35-40	32.5-37.5	32.5-37.5
2 Phonak	12.5-17.5	12.5-17.5	20-25	20-25
3 Oticon	15-20	20-25	20-25	20-25
<b>Total of 1-3 above</b>	<b>70.7%</b>	<b>72.7%</b>	<b>78.5%</b>	<b>81.1%</b>
4 GN ReSound	10-15	10-15	7.5-12.5	5-10
5 Widex	7.5-12.5	7.5-12.5	5-10	5-10
6 bruckhoff	<2.5	<2.5	<2.5	<2.5
7 Starkey	<2.5	<2.5	<2.5	<2.5
8 audifon	<1	<2.5	<1	<1
9 Acousticon	<1	<1	<1	<1
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Graph 3: Market share development between 2003 and 2006**



While within the oligopoly, SAT's market share fell by just a few percentage points, Phonak increased its market share significantly between 2003 and 2006 (+ approx. [...]) and Oticon also increased its market share between 2003 and 2006 (+ approx. [...]). Each of their market shares is now more than 20 per cent. While the market share gains of Phonak and Oticon between 2003 and 2006 were partly at SAT's expense, they were to a much greater extent at the expense of their competitors GN ReSound and Widex. In addition, SAT's market share remained almost constant again between 2005 and 2006. To this extent, the market share increases of Phonak and Oticon are not in themselves a sufficient indication of significant competition within the oligopoly. It also has to be taken into account here that the market saw decisive structural change in the wake of digitalisation and that it is likely that if there had been significant competition, these structural changes would have led to much more significant shifts between the members of the oligopoly.

## (2) Market share development in ZVEI price segments

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Oticon described the customer segmentation in Germany to the Decision Division as follows, identifying **three major groups of customers**:

- The first group of customers is on a low income and is only in a position to purchase a basic item of equipment for the fixed amount reclaimable from the statutory health insurance. These are the hearing aids that are purchased in the "list price of up to €200" segment.

- A price segment has established itself in Germany above the "list price of up to €200". It offers considerably more functions and hearing comfort in comparison with basic hearing aids; the partial payment to be made by the customer is still affordable, even on an average income.
- High-income customers who wish to use state-of-the-art technology have the option of buying a high-end item of equipment in the "list price > € 900" price segment. Product innovations, i.e. new features or functions, are always introduced in this segment first.

The Decision Division basically shares Oticon's view with regard to the division of the market into three segments. With regard to their specific definition and an assessment of them from the point of view of competition, however, the following additional information is of significance:

...

The market shares of the major competitors in the two customer segments open to a dynamic market share evaluation, the segment in the € 201 to € 600 price category and the segment in the € 750 + price category, have developed as follows under the general market developments outlined above:

**Table 9: Market share development in the €201 to €600 customer segment**

	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
	in %	in %	In %	in %
Siemens	45-50	50-55	40-45	45-50
Phonak	10-15	10-15	15-20	15-20
OTICON	10-15	10-20	20-25	20-25
GN ReSound	7.5-12.5	7.5-12.5	7.5-12.5	7.5-12.5
Widex	15-20	10-15	7.5-12.5	<5%

**Table 10: Market share development in the €750 + customer segment**

	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
	in %	in %	in %	in %
Siemens	25-30	25-30	30-35	25-30
Phonak	20-25	10-15	30-35	30-35
OTICON	20-25	30-35	15-20	20-25
GN ReSound	10-15	10-15	10-15	5-10
Widex	15-20	15-20	5-10	5-10

Widex lost a major part of its sales potential in the "list price between € 201 and € 600" customer segment between 2003 and 2006 (approx. 15%). GN ReSound's market share has remained largely stable (less than 1 per cent change). SAT managed to compensate its loss of market share in 2005 apart from [ $>0-0.5$  percentage] points. Phonak gained an additional market share of more than 5 per cent and Oticon of nearly 10 per cent. Thus, when seen dynamically, the structural changes did not take place at the expense of the oligopolists, but at the expense of the outsiders.

In the "list price of € 750 +" customer segment, the oligopoly members SAT and Oticon increased their market shares slightly between 2003 and 2006 (by approx. 3 per cent and approx. 1 per cent respectively), while Phonak significantly increased its market share, with an increase of more than 10 percentage points. Ultimately, Oticon was unable to maintain its market share gains in 2004, and by 2006 had nearly fallen back to its starting level in 2003. Phonak's market share gains were also mainly at the expense of the smaller competitors. GN ReSound was worst affected (approx. 10 percentage points), while Widex lost more than 5 percentage points. In the view of the Decision Division, the policy of the hearing aid manufacturers to stagger their introduction of new products explains why the market shares of SAT and Oticon in the higher price segment have not been subject to any permanent changes in recent years and that ultimately, Phonak's market shares increased particularly at the expense of GN ReSound and Widex.

Thus, Phonak's increased market share is largely at the expense of its competitors GN ReSound and Widex, which have a weak market share in Germany. When viewed dynamically over the period from 2003 to 2006, the market share fluctuations of Oticon and SAT levelled off again at their 2003 level. The Decision Division fully appreciates here that the market shares of SAT and Oticon were subject to short-term fluctuations. In themselves, these fluctuations, the effects of which are largely lessened when the period from 2003 to 2006 is seen dynamically, do not contradict dominance.

It is appropriate to analyse the market share development on the basis of the overall market, since the manufacturers supply a complete product portfolio from high-end aids to basic aids and their marketing and pricing stem from an overall business concept (e.g. launching high-end products while simultaneously down-grading what is then "outdated" technology). In addition, consumers usually look at hearing aid manufacturers' complete product portfolio.

Insofar as it is also possible to view separately the digital customer segments of significance for the hearing aid market for 2003 to 2006, it becomes apparent that Phonak increased its market share primarily at the expense of the small competitors. The other oligopolists SAT and Oticon were able to maintain or even to some extent to increase their market shares.

The Decision Division is aware that Phonak gained greater influence within the oligopoly between 2003 and 2006 through its very effective branding policy. In the view of the Decision Division, this strengthening of Phonak within the oligopoly would only be an indication of significant internal competition if Phonak had attacked the market position of the other oligopolists permanently and substantially. This is not the case here, however. Losses or gains of market share by Oticon and SAT in individual price segments levelled off again in the course of time. In addition, structural upheavals in the wake of market digitalisation are to be taken into account. These would have made a significant change in the market more probable, also at the expense of individual members of the oligopoly.

#### **6.1.1.4 Statement by Phonak and Siemens**

The market share of the hearing aid manufacturer Siemens is just above the level required for the presumption of dominance under Section 19 Paragraph 3 Sentence 1 of the ARC. However, the Decision Division does not share Phonak's view<sup>3</sup> that it should not have examined the question of oligopolist dominance in the present case, but, if at all, individual dominance. Phonak substantiates its view by giving the following reasons:

- Only the market shares of the market leader Siemens remained constant over time.
- The market share of the next-largest enterprises has been well over 20 per cent behind the market leader to date.
- The next-largest enterprises have been subject to such strong market share fluctuations that their membership of the supposed oligopoly changed over the years.
- It is not in dispute that the features of the relevant market are innovation and heterogeneous products.

It is true that SAT's market shares remained constant between 2003 and 2006 or only fell very slightly within a range of less than 5 per cent. It is also true that Phonak gained market shares and Oticon also slightly improved its market position in Germany, i.e. within a range of less than 5 per cent. The Decision Division has examined these shifts in market share in detail and ascertained that Phonak gained market shares particularly at the expense of the oligopoly's closest competitors GN ReSound, Widex and Starkey. Changes in market share within an oligopoly do not contradict dominance if an oligopolist's market share gains were not at the expense of the other oligopolists but were mainly at the expense of outsiders. In the view of the Decision Division, this is the case here.<sup>4</sup>

According to the Decision Division's investigations, the gaps between the market shares of Siemens and the following enterprises Phonak and Oticon are not much greater than 20 per cent, but are only approximately or slightly more than 10 per cent. Thus, even before the merger, there is a market structure that suggests that according to the

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<sup>3</sup> Phonak's statement on the warning letter of 3 April 2007, p. 10.

<sup>4</sup> See e.g. "Comet/Piepenbrock", Bundeskartellamt, Decision of 12 May 1999, marginal note 21.

Bundeskartellamt's decision-making practice, a single dominant position does not exist. The narrow presumption of the existence of an oligopoly pursuant to Section 19 Paragraph 3 Sentence 2 Item 1 of the ARC and the structural conditions in the relevant product market listed below therefore accurately describe the situation that threatens competition.

The fact that the distribution of market shares among the three leading manufacturers is not completely symmetrical does not contradict the presumption of the existence of an oligopoly.

...

While Phonak's market shares in 2003 and 2004 were only slightly higher than those of GN ReSound, the picture has changed decisively in the last two years. Phonak has established itself in the market, largely at the expense of GN ReSound and Widex, and is therefore to be included in the presumption of the existence of an oligopoly under Section 19 Paragraph 3 Sentence 2 of the ARC. Detailed and reliable evidence of this has been provided by the Decision Division in its investigation of market shares and this is not, as Phonak claims, a "...snapshot of little significance...". GN ReSound is not to be included in the oligopoly. While the enterprise is involved in joint ventures such as HIMSA and HIMPP, it ceased to be one of the leading hearing aid manufactures in Germany in 2005 at the latest on account of weaknesses mainly relating to sales and brand strategy. GN ReSound is neither involved in an exchange of technology relating to products launched in 2006 and 2007 to the same extent as the oligopolists, nor did GN ReSound take part in recent years in the convergence of manufacturers' selling prices organised through the ZVEI notification system. Thus, like the Monopolies Commission, the Decision Division believes that enterprises can only be ascribed to an oligopoly if their behaviour is also coordinated.<sup>5</sup> This does not apply to GN ReSound in the present case.

### **6.1.2. Structural conditions favouring oligopolist parallel behaviour**

In the view of the Decision Division, the relevant market displays a number of special structural conditions which favour oligopolist parallel behaviour. These structural conditions range from close links and important product-related licensing to a high level of market transparency, both concerning product innovations and the times of new product launches and also concerning the setting of prices and conditions. They also include the fact that hearing aid manufacturers have jointly created product and price segmentation for the hearing aid market and are jointly listed market-wide with nearly all the larger buying hearing aid retailers. For the oligopolists, it is relatively easy to reach agreement on the conditions of oligopolist coordination, partly on account of these structural conditions, some of which they have created themselves. They are also in a position to adhere to the coordination modalities and to be able to monitor them. After all, they are in a position to

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<sup>5</sup> Monopolies Commission Main Report 2004/2005 "Mehr Wettbewerb auch im Dienstleistungssektor!", Baden-Baden 2006, marginal note 505ff.

use credible deterrents in case of a violation of this coordination. Finally, the Decision Division considers it to be improbable, particularly after the merger, for outsiders to the oligopoly to be in a position to endanger the results of this coordination. For the buying hearing aid retailers, this is already the case today. The major structural conditions can be summarised as follows:

#### **6.1.2.1 The joint ventures HIMPP and HIMSA**

The main basic patents of digital hearing aid technology are held by the Danish company Hearing Instrument Manufacturers Patent Partnership, Vaerlose, Denmark, (HIMPP). **HIMPP** was founded by leading hearing aid manufacturers in 1996 in order to purchase patents for the development of digital hearing aids from enterprises that do not themselves supply hearing aids and to make them available to all hearing aid manufacturers (*third-party patent portfolio*).

...

According to the manufacturers involved, the pooling of basic patents was intended to prevent patent disputes while digitalisation was being introduced. Today, all the reputed manufacturers are co-partners of HIMPP. Patents can be used without paying a licensing fee by paying an initial amount of € 1.8 million. According to the statement by the manufacturers asked, HIMPP is open to all suppliers wishing to join. Those who are not partners (e.g. auric), receive a licensing contract. The license fee is then calculated on the basis of the number of digitally programmable hearing aids sold each year.

According to information provided by the parties to the merger, no competitor has any major technical lead over rival companies with regard to basic technologies. At the same time, the parties to the merger are of the opinion that while the HIMPP patents are essential basic patents required for the development of digital hearing aids, the competition for innovation takes place in a different area (new programming algorithms, refinement of BTE aids, etc.).

...

The joint ventures **HIMSA I and HIMSA II** are another example of the cooperations to be observed in the hearing aid industry.

...

#### **6.1.2.2 Licensing of hearing aid technology**

The leading hearing aid manufacturers SAT, Phonak and Oticon in particular are closely linked with one another through a number of reciprocal licensing and cross-licensing agreements. This is also true, albeit to a much lesser extent, of their nearest competitors

GN ReSound, Widex and Starkey. An increasing number of reciprocal licensing agreements are made because the manufacturers' focal areas of development are very similar and there is therefore always the danger of patent disputes. Enterprises often work on product refinements concerning which rivals have already notified patents. The patent database of all the patent documents relevant to hearing aids, which is maintained by HIMPP, makes it easier to identify relevant parallel developments. Usually, the companies agree to reciprocal licensing free of charge. Licenses are issued mainly in respect of features/functions in the signal transmission process and in programming, but also in respect of *hardware* components, such as the tubes and end pieces used for open ear technology or the injection moulding process for manufacturing hearing aids. The pooling of application-oriented technology between the oligopolists SAT, Phonak and Oticon is explained in more detail below, based on the example of the "Patent Cross License and Option Agreements" made between these enterprises.

...

Thus, the industrial property rights do not relate to marginal areas of technological development, but mainly to current product developments with considerable market significance.

### **6.1.2.3 Expenditures on research and development**

...

### **6.1.2.4 Market transparency**

The market transparency in the domestic market for hearing aids in Germany is so distinctive that it favoured oligopolist parallel behaviour even before the merger.

...

In order to promote oligopolist parallel behaviour, it is sufficient for market transparency to reach a level that firstly allows oligopolists to recognise their competitors' product and price strategy and to identify competitive pushes by rivals. Secondly, the level of market transparency must place the oligopolists in a position to be able to react promptly to the competitive pushes of other oligopolists, adapting their own product range or their own conditions accordingly.<sup>6</sup> In such a scenario, an oligopolist's competitive push would not lead to a permanent increase in market share since the comparative advantage of this push could be neutralised by its rivals through their reaction without any significant time lag.<sup>7</sup>

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<sup>6</sup> Case T-464/04 "Independent Music Publishers and Labels Association (Impala) v Commission of the European Communities"; European Court of First Instance, ruling of 13 July 2006, marginal note 440.

<sup>7</sup> See also Wagner-von Papp, "Wie "Identifizierend" dürfen Marktinformationsverfahren sein?", *Wirtschaft und Wettbewerb* 7 and 8/2005, pp. 732, 735

The Decision Division is of the opinion that market transparency in the domestic market for the manufacture of hearing aids and their sale to hearing aid retailers has now reached a point where oligopolist parallel behaviour within the meaning of the principles specified above is sufficiently ensured. The following ascertainments are of key importance here:

**(1) Transparency concerning the time of product launches**

Product launches are announced only twice a year at two trade fairs. The first of these fairs is an event held by the American Academy of Audiology (AAA) and it takes place in the USA in the spring; the other fair is an event by the European Union of Audiologists (EUHA) and it takes place each autumn in Germany. The Decision Division is not aware of any case in recent years where a new product was not launched at a time close to one of these congresses. Thus, as a result, competitive pushes in the sense of introducing new hearing aid functions only take place within a time frame that is predictable for all manufacturers.

**(2) Stability of supply and demand conditions**

The **sales structure** in the relevant market is extremely stable and has become established over a number of years. After a long consolidation phase, only five suppliers with market shares of more than 5 per cent still operate within Germany. The other suppliers do not play any major role. None of the competitors asked was able to name any market entries to the German hearing aid market for sales to hearing aid retailers in the last ten years...

**Demand** does not depend on economic cycles, although the market potential for hearing aids has only been exhausted to a small extent to date. While approx. 70 to 80 per cent of extremely hearing-impaired individuals have hearing aids in Germany, this is true of only 30 to 50 per cent of individuals whose hearing impairment is medium to severe. Hearing-impaired individuals who actually buy a hearing aid are usually absolutely dependent on such an aid. Accordingly, it is hardly an alternative to resort to other aids, nor is there the possibility of delaying the purchase by any great length of time. Accordingly, the supply relationships between hearing aid manufacturers and hearing aid retailers involve stable, slightly increasing quantities in the long-term.

...

A survey of the 17 largest multiple shops and purchasing groups did not suggest that there were any major **customer movements** between the oligopolists...

**(3) Price transparency through market-wide listing and constant customer contacts**

The 17 largest multiple shops and purchasing groups polled by the Decision Division have a purchasing volume of just under 50 per cent by value of all the hearing aids purchased

from hearing aid retailers in Germany. The oligopolists are listed by 15 of the 17 polled enterprises as their main suppliers. Whenever a new product family is launched, the manufacturers carry out so-called roadshows at all the important suppliers. The frequency of customer visits for the purpose of customer care and training is extremely high in the hearing aid market due to the short product cycles, particularly in the upper price segments, and due to the annual price negotiations. The list prices, which have remained extremely stable over time, are known in the market. They are the starting point for the annual negotiations on conditions with purchasers. According to the Decision Division's investigations, special conditions during the year, such as rebates in kind or discounts, which can lead to inexactitudes in price transparency, do not play any major role in price-setting. Thus, there is considerable price transparency already due to the frequent customer contacts. There is an indirect exchange of information on specific conditions through retailers, since these usually negotiate on the basis of the conditions offered or granted to them by the other hearing aid manufacturers.

#### **(4) The ZVEI notification system**

This price transparency is enhanced by the ZVEI notification system. The ZVEI notification system is a comprehensive **market information system** created by hearing aid manufacturers. The ZVEI notification system, with its up-to-date and very detailed data notification and processing information, was set up in its present form in 2002, i.e. at a time when the establishment of digitalisation was still in full swing and price-setting could still have been referred to as a process of discovery.

The ZVEI notification system has greatly increased transparency with regard to the market share structure and price-setting since 2002. Following an adaptation phase of four years now, the oligopolists' average manufacturers' selling prices have strongly converged with one another.

All the manufacturers selling hearing aids to hearing aid retailers in Germany take part in the ZVEI notification system. Manufacturers that sell hearing aids directly through ENT doctors are not authorised to register. Due to the strong consolidation in recent years, data exchange now concentrates mainly on SAT, Phonak, Oticon, GN ReSound and Widex. On the basis of the monthly notifications, ZVEI provides the enterprises taking part in the notification system with the following assessments (aggregates of all the participating enterprises, evaluations of individuals months, quarters and whole years):

...

The average manufacturers' selling prices are ascertained according to the following criteria:

...

In this way, the enterprises participating in the ZVEI notification system can establish, among other things, precisely their own market share in all price segments and for all the different types of hearing aids each month. In addition, they receive information on an ongoing basis on manufacturers' sales price developments in these segments. It is to be taken into account here that the manufacturers participating in the ZVEI notification system themselves jointly created the segmentation into six list price segments. This segmentation of the market and the relevant transparency concerning a great number of list and manufacturers' sales prices put manufacturers in a position to recognise a possible competitive push immediately. They then also know in what price segment this push has taken place. On account of the stable conditions of supply and demand, the participating enterprises can meanwhile practically rule out that any changes in market shares or manufacturers' sales prices are not a conscious deviation from the coordinated price ("cheat") but the ordinary ebb and flow of the market due to fluctuations in the level of incoming orders<sup>8</sup>.

#### **(5) Asymmetry of market transparency at the expense of consumers**

...

On account of the cooperations described above and of the turnover and price notification systems, there has been asymmetrical market transparency in the past which benefits hearing aid manufacturers, is at the expense of hearing aid retailers and all the more at the expense of the final customers of hearing aids. The product range defined by the manufacturers, from basic hearing aids to high-end hearing aids, involves a price range where a high-end aid costs up to ten times as much as a basic aid. In view of the fact that the digitalisation of hearing aids has meanwhile been completed and product differentiation relates mainly to technical improvements and optimisations or a different product design, this suggests that there is no effective competition on price in the market. Final customers are much less in a position than hearing aid retailers to carry out a price and product comparison. A simple comparison of the prices of hearing aids cannot be made, unlike of many consumer goods. The price to final customers is made up of the manufacturers' sales price and the price of the service by the hearing aid manufacturer. The pricing is completely opaque to customers. To this extent, hearing aid retailers also profit from this asymmetrical market transparency.

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<sup>8</sup> See also Wagner-von Papp, "Wie "Identifizierend" dürfen Marktinformationsverfahren sein?", *Wirtschaft und Wettbewerb* 7 and 8/2005, p. 732, 739.

### **6.1.3 Effects of the structural conditions on internal competition within the oligopoly**

#### **6.1.3.1 Competition on innovation and competition for new product launches**

Through pooling their basic patents through **HIMPP**, the hearing aid manufacturers placed the digitalisation of hearing aids on a joint basis at a very early stage. This led on the one hand to the establishment of an industrial standard and on the other placed competition for digitalisation in an extremely cooperative environment from the outset.

One must agree with the participating enterprises that the HIMPP patent portfolio relates to basic patents and not to patents involving new functions and algorithms. However, in the view of the Decision Division, the opinion of Phonak and Siemens that HIMPP has merely a standardisation function that promotes competition is insufficient. The relevance of HIMPP is of fundamental significance to the activities of a hearing aid manufacturer. Without a partnership in HIMPP or a licensing contract with HIMPP, it is not possible to manufacture a digital hearing aid. This key function is seen by HIMPP partners as an important mutual link. HIMPP was the starting point for developing the digital hearing aid market, which was largely based on the joint cooperation of traditional hearing aid manufacturers. In contrast to the development regarding digital cameras, even enterprises with a background in digital technology did not gain a foothold in the hearing aid market. The traditional hearing aid manufacturers secured their access to digitalisation at an early stage by purchasing and pooling the HIMPP patent pool. This is also being defended vis-à-vis third manufacturers, currently microchip manufacturers...

The patent portfolio will also not lose its significance for the hearing aid market from the point of view of competition in the forecast period, since most of it is valid until 2012/2018.

...

The **exchange of patents between the oligopolists** relates not only to marginal areas of technological development, but mainly to current product developments of key market significance.

In the view of the Decision Division, this is understandable if one looks at the example of the cross-licensing agreement described in marginal note 180 ff. "Occlusion-free sound quality" "sound smoothing", "automatic microphone adaptation", "further development of directional microphones", "data learning" and "wireless transmission process" are the main areas of current and medium-term development specified in the information provided to the Decision Division as being focal areas by the enterprises that are parties to these agreements as well as other market participants. Almost without exception, the industrial property rights exchanged by the three leading suppliers cover these focal areas of development

...

On account of the cooperations between the leading hearing aid manufacturers described in the field of basic patents for digitalisation (HIMPP), the networking of software components such as measurement technology and adaptation software using NOAH (HIMSA I, HIMSA II) and the reciprocal licensing of major product developments, largely free of charge, they are very close to one another in their capacity for development. At the same time, monitoring the patents relevant to the hearing aid industry in HIMPP ensures the pooling of information on technical developments and the creation of a uniform information base. Competitive pushes by individual manufacturers, if they take place at all, are usually taken up by their rivals within a few months. Such conduct makes a major contribution to the mutual confidence in oligopolist parallel behaviour and to a great extent it is secured structurally through the pooling referred to above. On the basis of the joint basic technologies and the resulting comparable developments among the oligopolists, each of them has to expect that it might infringe on the patent of another competitor in a specific area. The large number of patent complaints lodged highlights this problem. Being aware of this situation and not intending to block each other all the time, it appears to be absolutely essential from a business point of view to repeatedly exchange patents with one another. This secures oligopolist parallel behaviour structurally in the competition for technology and ensures the prevention of long-term technological advantages. Genuine technological advantages are the exception. There are no genuine surprises in the hearing aid market.

...

The participating enterprises have stated that it is particularly the success or failure of newly-launched models that has a significant effect on the market share of the competitor concerned and that the manufacturers are thus constantly **in innovative competition for the launch of new models**. This statement is supported by the fact that there are very short product cycles for product launches, particularly in the upper price segment. The market features short product life cycles and continual competition for product refinements...

In order to be of significance for an assessment under merger law, competitive pushes have to be relatively stable. This is not the case, for example, if (a) competitive pushes due to a technological lockstep initiated by the market participants themselves can be matched in the short term, i.e. within months and (b) no genuine development advances have been made that could be pushed through in competition and could lead to an increase in turnover and numbers sold, not only in the short term. Oticon provided the Decision Division with a (confidential) diagram showing that [...]. The only permanently successful product launch in

the last three years of which the Decision Division is aware is the Savia product family. It is precisely this competitive push by Phonak that causes the Decision Division not to presume the existence of a dominant oligopoly without internal competition even before the merger. It has to be taken into account here, however, that even this competitive push has not attacked the market position of Siemens and Oticon in a way that would influence the decision.

Moreover, the Decision Division is also not of the opinion that the mere fact that all hearing aid manufacturers launch new products in association with comparatively short product life cycles allows the assumption to be made that there is significant competition within the oligopoly in the present case.

The hearing aid manufacturers are very close to one another in their capacity for development and work largely in the same focal areas of development, and each has a complete product portfolio. Thus, competitive pushes by individual manufacturers can be taken up by the competition very quickly, sometimes within a few months. The fact that hearing aid manufacturers only launch new or improved products within the context of trade fairs that take place twice each year stems from their voluntary commitment. In the case of functions such as those that are already on the market in the high-end sector, at least, and which are introduced into other price segments by competitors through downgrading, a reaction to a relevant competitive push would even be possible straight away, within a few days.

...

Nor is the temporal sequence of product launches in the top price segment, the "list price of > € 900" in the period from 2003 to 2006 sufficient to allow the conclusion to be drawn that there is competition within the oligopoly.

...

In the opinion of the Decision Division, this "staggered product launch policy" by hearing aid manufacturers explains on the one hand that there can be temporary changes in the market share of individual oligopolists when viewing individual years. On the other hand, it explains why the market shares of SAT and Oticon in the upper price segment were not subject to any significant permanent changes in recent years while Phonak's market shares rose particularly at the expense of GN ReSound and Widex. Phonak's product launch came precisely at the stage when sales of the then "outmoded" ReSound Air hearing aids and Senso Diva hearing aids were declining and neither GN ReSound nor Widex was able to cushion the effect of the decline in their sales with successful successor models of their own in the "list price above € 900" category. Their competitors SAT and Oticon had already secured their sales volume at this point through relevant successor models of their own

(Delta 8000, Acuris). The sales volumes also corresponded approximately to the sales volumes of the forerunner models. To this extent, the shifts in market shares in 2005 are partly due to this special situation. The fact that SAT and Oticon were unable to benefit from the obviously misguided product policies of the outsiders to the oligopoly is an indication that the situation within the oligopoly in 2005 was not entirely without competition. It is doubtful whether it may be concluded from this that there was significant competition within the oligopoly, however. The increase in market shares as a result of launching the product Savia was largely at the expense of the competitors with smaller market shares, GN ReSound and Widex. Otherwise, the launch of new products usually leads to the sales volume of the respective company's own forerunner model being transferred to the new product without permanently attacking the competitive position of competing oligopolists.

...

**To sum up**, the following observations may be made: Insofar as the Decision Division can recognise competition for innovations and product launches, this does not in itself indicate that there is significant competition within the oligopoly in the present case. This is because it would be economic nonsense, particularly from the point of view of maximising profits, for the oligopolists to prevent technical development by tacitly agreeing to forego such competition and to evaluate technical developments of this kind by a member of the oligopoly as being a contravention of oligopolist parallel behaviour. In the relevant market here, the hearing aid market, oligopolist parallel behaviour in connection with technological competition can only mean that the oligopolists make this competition as transparent as possible and ensure that an oligopolist's competitive edge in introducing technical optimisations does not lead to a permanent competitive edge that is secured in market structures. The high level of market, product and price transparency supports this behaviour.

This parallel behaviour is facilitated by the fact that new technical developments are only launched onto the market at the two hearing aid trade fairs in the spring and the autumn, which means that competitors can react to this relatively quickly on account of their own technical expertise. In the future, unlike in the past, rapid technical developments are unlikely. Instead, there are likely to be improvements in specific areas. In this context, the importance of technical developments from the point of view of competition will decline further and enhancements of the so-called feel-good factors and greater efforts in the field of marketing will become more important.

### **6.1.3.2 Competition on price**

In Phonak's view, the innovative ability of hearing aid manufacturers is the most important competition parameter, whereas price does not play any major role as a competition

parameter. It merely reflects the high level of quality. Moreover, in Phonak's view, GN ReSound's price level is comparable with that of its competitors.

Even before the merger, the Decision Division sees substantial evidence of oligopolist parallel behaviour by hearing aid manufacturers in connection with this competition parameter, which Phonak regards as being of only secondary importance. Moreover, Phonak's statement concerning GN ReSound's pricing is incorrect. In the past, GN ReSound has been a supplier that has had aggressive pricing towards the oligopoly regarding manufacturers' sales prices.

### **(1) List prices**

In 2002, the hearing aid manufacturers divided the digital hearing aid market, which originally consisted of three list price segments (in 2001), into six list price segments within the framework of their ZVEI notification system. These six list price segments created by the manufacturers have established themselves in the market. In addition, it is not only the list price structure that appears to have been agreed between the manufacturers; the amount of the different manufacturers' list prices is largely the same within the individual segments.

...

### **(2) Average manufacturers' sales prices**

...

In the view of the Decision Division, a comparison of the average manufacturers' sales prices for the individual ZVEI price segments over time provides evidence that competition on price is to a considerable extent curbed by the list price segments laid down by the hearing aid manufacturers themselves in the context of the ZVEI notification system. The parallelism in the amount of list prices has also led to a corresponding parallelism in the amount of the average manufacturers' sales prices. In the context of structural changes in the hearing aid market, combined with the increased volumes in individual segments, some of which are considerable, astounding pricing discipline can be established over time which even allowed price increases to be made, especially in the high-price segments. This is shown in the following table and in the corresponding graph presenting this situation.

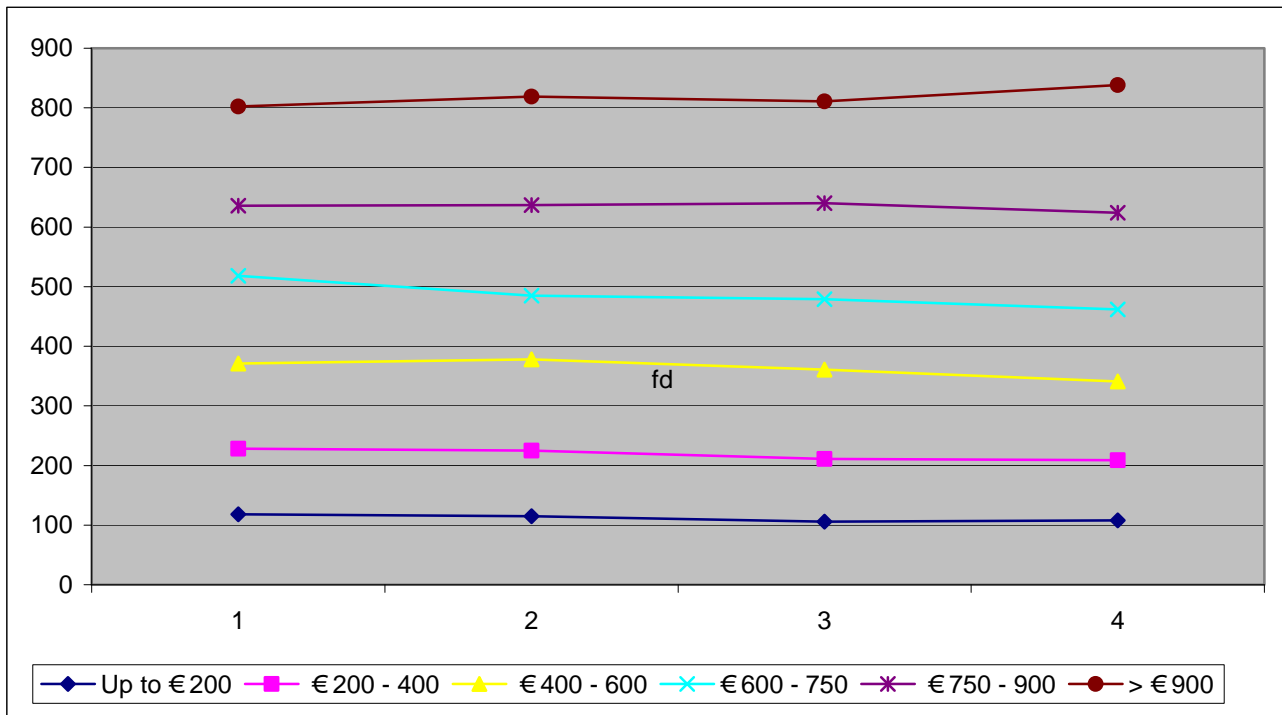
**Table 11: Average manufacturers' sales prices between 2003 and 2006 in €**

	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>ASP</b>	<b>in €</b>	<b>in €</b>	<b>in €</b>	<b>in €</b>
LP <sup>9</sup> of up to € 200	118	115	106	108
LP between € 200 and € 400	228	225	211	209

<sup>9</sup> LP = list price

LP between € 400 and € 600	371	378	361	341
LP between € 600 and € 750	518	485	479	462
LP between € 750 and € 900	636	637	640	624
LP more than € 900	802	819	811	838

**Graph 4: Average manufacturers' sales prices between 2003 and 2006 in euro**



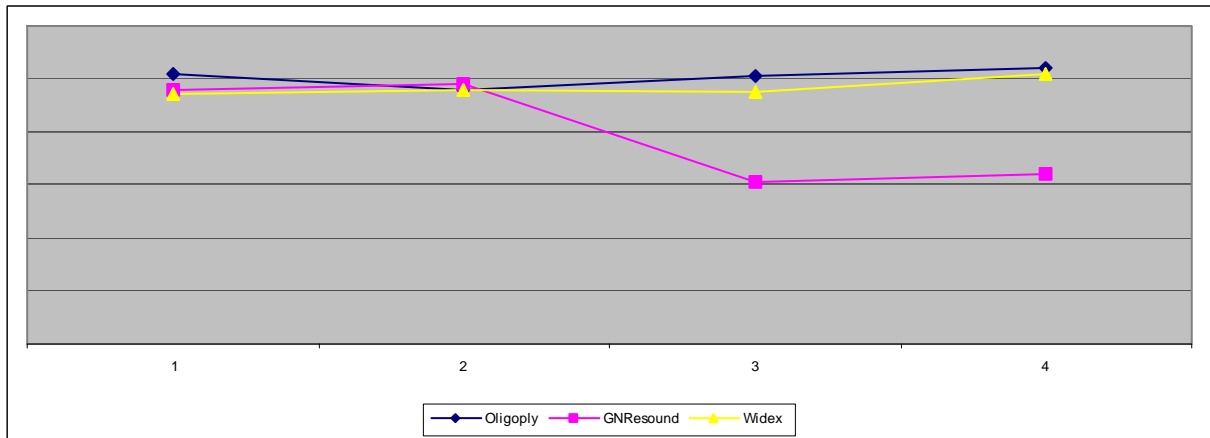
### (3) Enterprise-related average manufacturers' sales prices

...

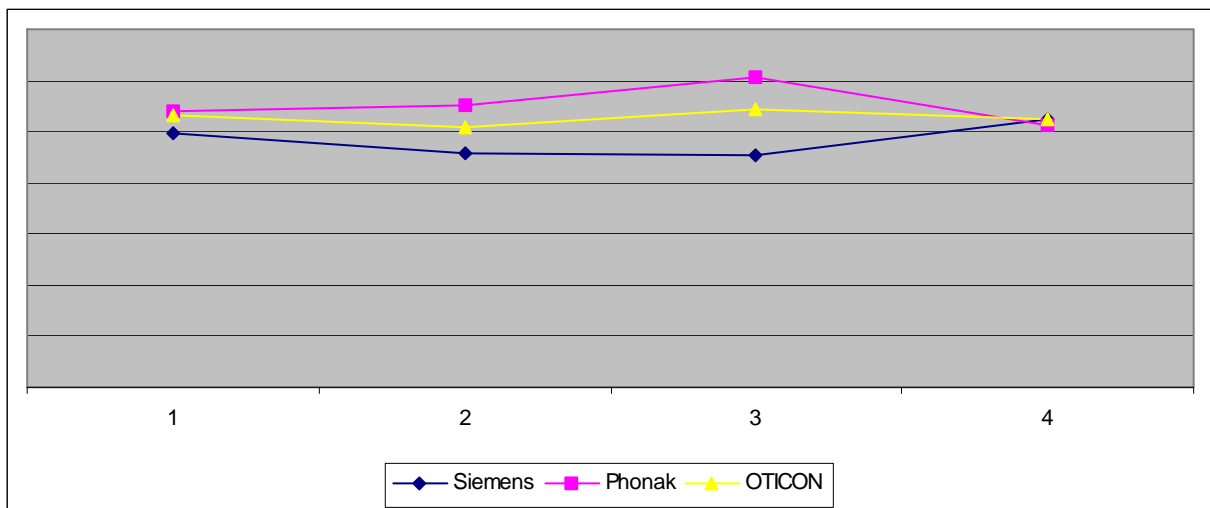
#### Price comparison for the "list price € 201 to € 600" customer segment

In the "list price € 201 to € 600" customer segment, the average manufacturers' sales prices between 2003 and 2006 remained nearly constant. The fall in prices was less than 2 per cent. GN ReSound's considerable price reductions since 2005 have not led to any significant fall in prices overall as the enterprise saw a considerable fall in its sales volume in spite of its active pricing policy. The average prices of SAT, Phonak, Oticon and Widex have converged significantly and are now almost identical. The two graphs below clarify this situation.

**Graph 5:**



**Graph 6:**

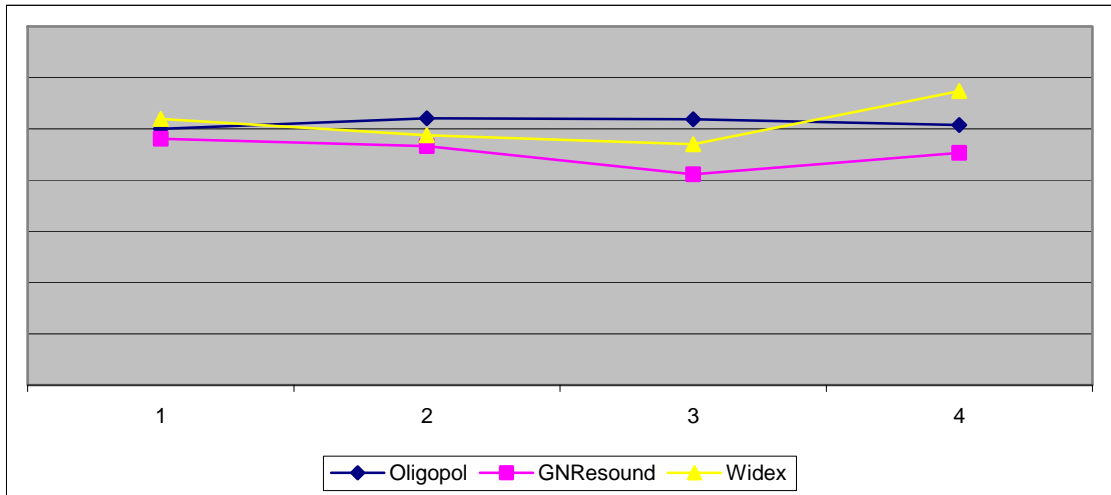


The first graph shows the development of the average manufacturers' sales prices in the "list price between € 201 and € 600" customer segment. The prices of the oligopoly members were compared with the two outsiders Phonak and Widex. They highlight in particular GN ReSound's significantly deviating price behaviour in the last two years 2005 and 2006. The second graph compares the price behaviour of the oligopoly members in this customer segment with their price adaptation over time.

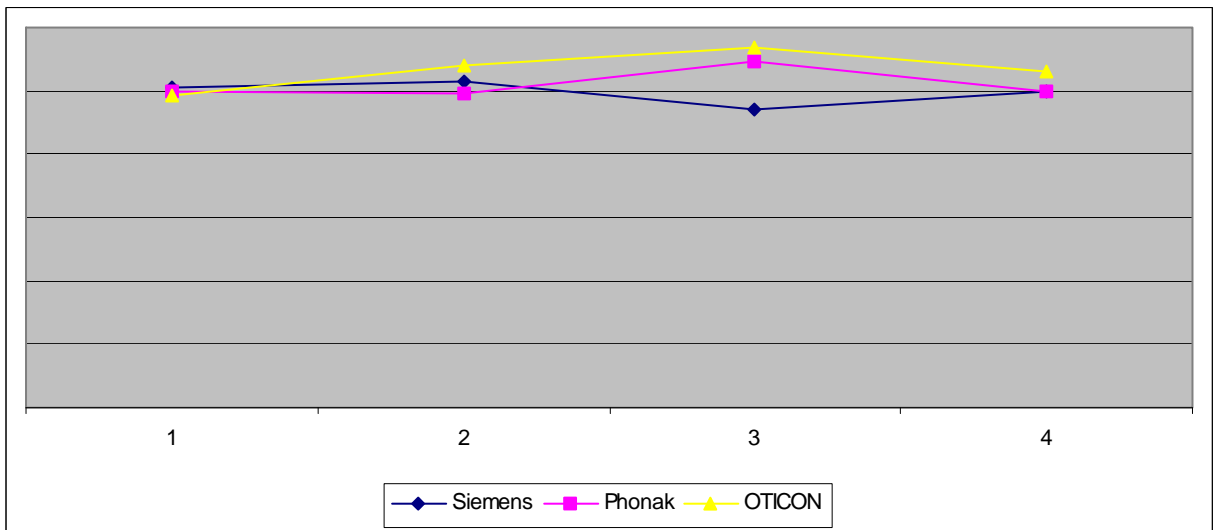
Price comparison for the "list price of more than € 750" customer segment

In the customer segment "list price of more than € 750", too, pricing behaviour by market participants can be ascertained that is comparable with that in the customer segment "list price between € 201 and € 600" from 2003 to 2006. The overall price level in this segment increased by more than 2 per cent between 2003 and 2006.

Graph 7:



Graph 8:



The oligopolists' prices are once again very similar, following a slight spread in 2005. GN ReSound's prices are recognisably below those of the oligopolists, although not as significantly as in the segment shown above, and over the course of time, Widex has set its prices above those of the oligopoly.

#### (4) Competition on conditions

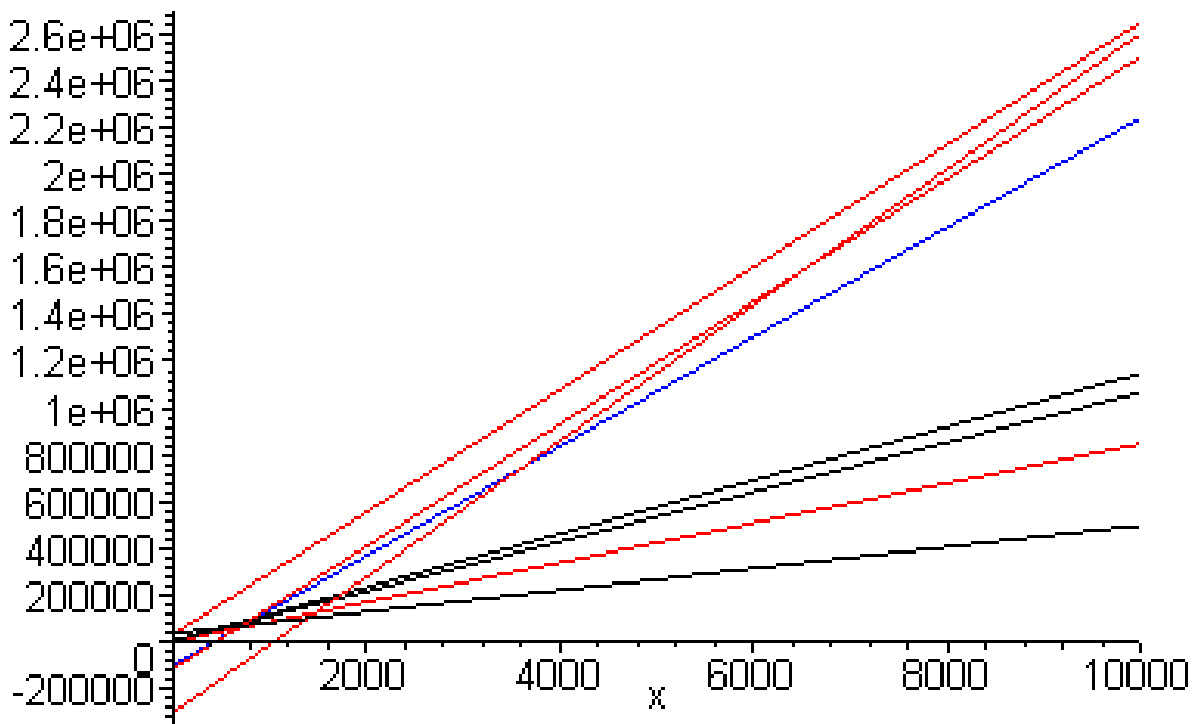
The enterprises participating in the merger state that there is significant competition on conditions....Overall, it was possible to establish that all manufacturers grant their major customers considerable discounts on their list prices. These averaged 35.4 per cent across all manufacturers and all customers. This does not automatically lead to the conclusion that there is significant competition on conditions, however. In itself, this figure only says something about the absolute level of the list prices and does not give any

information on the differences between the hearing aid manufacturers regarding competition on conditions or even regarding the development of these conditions over time.

30.5 per cent of the total reductions in profits are on account of bulk discounts, which, as the term suggests, are granted for above-average purchase volumes. On the basis of its analyses, the Decision Division was unable to recognise any particular differences in the behaviour of the market participants here. As a rule, large purchase volumes correlated with large bulk discounts from all manufacturers. On the basis of a linear regression analysis of the volumes sold in relation to the bulk discounts granted, however, it was possible to establish firstly that the behavioural structure of the oligopoly members Siemens, Phonak and Oticon was very similar with regard to the granting of bulk discounts, and specifically with regard to the connection between the purchase volume and the discount granted. Secondly, the analysis provided evidence that the structure of the discounts granted by the oligopoly for first brands differs significantly from the structure of the discounts granted by the outsiders GN ReSound and Widex and the structure of the discounts granted for the second brand of one of the oligopolists, for which a comparison was made. This connection is shown in the table below, which gives the individual figures, and in the graph which presents the connection between volume and discount structure (the names of the enterprises are not given for reasons of secrecy; the order derives from the increase in regression levels). The oligopolists' levels are shown in red, the total regression is shown in blue, and the regression levels of the outsiders are shown in black:

**Table 12: Linear regression of volume and bulk discount**

	Increase in regression levels	Coefficient of determination
First brand of oligopolist 1	290.702226	0.901364
First brand of oligopolist 2	261.933663	0.980399
First brand of oligopolist 3	261.973224	0.791455
<b>Total</b>	<b>234.200389</b>	<b>0.782779</b>
First brand of outsider 1	114.399303	0.782887
Second brand of outsider	106.318831	0.689874
Second brand of oligopolist	84.6654991	0.958695
First brand of outsider 2	46.2448241	0.643597



Due to the incomplete database, the Decision Division does not evaluate the result of this analysis as being a completely reliable indication of oligopolist parallel behaviour. However, the following tendency may be observed: as described above, the connection between the purchase volume and the discount granted is particularly strong and equally pronounced in the case of the oligopolists' first brands. This suggests that they actually do gear their bulk discount to the purchase volume and that essentially, they behave in the same way. The outsiders and the second brand of one of the oligopolists act contrary to this. Here, there is a much looser connection between the purchase volumes and the discount granted.

After bulk discounts, trade discounts are of second-greatest importance. They account for an average reduction in profits of 2.6 per cent. Trade discounts are granted very uniformly within the market. The maximum difference between the individual manufacturers is 0.5 per cent.

The bonuses granted are of no relevant significance in the market, having an average share of just 1.7 per cent. However, the behaviour of two market participants diverges here in that one does not grant its major customers any additional bonuses while another grants bonuses that are significantly above the average.

...

**To sum up**, the Decision Division is of the opinion that its investigations on competition on pricing and conditions in the market for hearing aids do not provide any clear evidence of

significant competition within the oligopoly. The main reason for this overall evaluation is that the hearing aid manufacturers not only divided the market into different price segments at the start of digitalisation, but were also in a position to stabilise these price segments over time in spite of the considerable technical upheavals in the wake of digitalisation. The list price structure and the list prices have largely remained constant. In addition, it was also possible to keep the price level essentially constant, judging by the average manufacturers' sales prices, or even to increase it in the segment with the highest turnover. This seems quite astounding in this sector in the context of a strong increase in quantities and the existence of economies of scale. If any competition on price could be detected, it was started in particular by the competitor GN ReSound in order to balance out market share losses. The oligopolists' pricing behaviour, also judging by their average manufacturers' sales prices, has clearly come into line with this again, following slight fluctuations. It was not possible to ascertain that there was competition on conditions, as had been claimed to exist, at least, it did not have any recognisable significant effect on the development of the average manufacturers' sales prices. In this respect, the competition on conditions that was claimed to exist does not constitute sufficient evidence of effective competition within the oligopoly<sup>10</sup>. In addition, neither the competition on pricing nor the competition on conditions that were claimed to exist has had any recognisable effect on the development of market shares. In any case, the market shares Phonak was found to have gained were not at the expense of the other oligopolists to the relevant extent and even the market share gains vis-à-vis outsiders are not the result of pricing activities, but are mainly the result of Phonak's more successful product launching - strategy in combination with a parallel grave error in the product policy of its competitor GN ReSound.

### **6.1.3.3 Coordination and sanctioning mechanisms within the oligopoly**

The conclusions regarding the effectiveness of the coordination and defence mechanisms within the oligopoly derive directly from the structural conditions referred to above and their effects on internal competition. On account of the diverse coordination mechanisms already existing in the field of development technology and on pricing, contraventions of oligopolist parallel behaviour can be swiftly sanctioned with differentiated means. In the field of development technology, oligopolists that do not adhere to the unwritten consensus may be excluded from exchange and from licensing agreements and their new developments systematically attacked using the argument that they contravene patents. In the field of pricing, relevant warnings to oligopoly members can be issued that are proportionate to the gravity of the offence. Price attacks may be limited to individual major

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<sup>10</sup> Case T-464/04 "Independent Music Publishers and Labels Association (Impala) v Commission of the European Communities"; European Court of First Instance, ruling of 13 July 2006, marginal notes 409 and 446.

customers or less significant price segments or to economically significant and profitable customer segments (e.g. the "list price above € 750" segment).

The Decision Division has analysed the available data from the ZVEI notification system installed by the hearing aid manufacturers. This has led to the conclusion that Phonak's objection that the ZVEI notification system has not led to detailed market transparency and is not suitable for triggering and securing coordination and sanctioning mechanisms within the oligopoly is incomprehensible. On the basis of the assessments made, the Decision Division can prove, among other things, that the high level of market transparency, the segmentation of the market into six price segments and the ZVEI notification system have greatly increased transparency with regard to the market share structure and pricing since 2002 and meanwhile have led to manufacturer's own sales prices converging in the individual price segments to a great extent. The market segmentation described and the corresponding transparency of a large number of list and manufacturers' prices enable manufacturers to recognise any possible competitive push straight away. They then also know in what price segment the push has taken place. On account of the stable conditions of supply and demand, participating enterprises can practically rule out that changes in market shares or manufacturers' sales prices are not a conscious deviation from the coordinated price ("cheat"), but are the usual "ebb and flow of the market" resulting from fluctuations in the level of incoming orders.

The expectation that the coordination might fail for a certain period if a deviation were to be discovered can be an effective deterrent mechanism per se. Moreover, it is even possible and probable that a specific deviator will be identified in the interaction of (a) the market segmentation and a market information system, (b) a very close supplier structure that has just three manufacturers with a market share of more than 10 per cent and (c) a high level of market transparency.

#### **6.1.4 Current external competition**

The oligopoly, consisting of SAT, Phonak and Oticon, is only open to attack from external competition to a limited extent even before the merger. Overall, the alternatives of the opposite side of the market are considerably limited by the interplay of the very significant market leadership of the leading three suppliers and the very large gap between them and the market shares of their closest competitors. At the same time these major differences existing in the market structure make it impossible for GN ReSound and Widex, the closest competitors of SAT, Phonak and Oticon, to be regarded as members of the oligopoly.

Of the outsiders, GN ReSound is the enterprise that is closest to the oligopoly on account of its business resources. The enterprise has a company profile comparable with those of the oligopolists in terms of its total turnover with hearing aids, its sales costs, its expenditures on R&D and its gross margin. While GN ReSound has shown considerable

weaknesses in its sales and brand strategies in the past, its technical potential and the quality of its patent portfolio are to be seen as very competitive. In the past, it has repeatedly been among the enterprises at the top of the market in terms of technology, for example with its open-ear technology in the ReSound Air product family or the introduction of a battery charging system, although these innovations were quickly copied by SAT, Phonak and/or Oticon.

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### **6.1.5 Barriers to market entry/Potential competition**

The examination of barriers to market entry and potential competition is of great value in making an evaluation under merger control law. Just as the market share constitutes evidence of the relationship between the parties to the merger and their current competitors, barriers to market entry provide information about the significance of potential competitors in the market concerned. In the present case, the market for the manufacture of hearing aids and their sale to hearing aid retailers features a number of barriers to market entry relating to the market structure and strategy, which, taken together, impede the entry of potential competitors. It is to be taken into account here that due to the considerable investments in research and development and the economies of scale required for market entry, market entry cannot be limited to Germany, even though Germany is the market in Europe with the largest turnover and the world's second-largest market.

#### **6.1.5.1 Structural barriers to market entry / Market phase**

The requirement that there be close geographical contact between the hearing aid manufacturers and hearing aid retailers is a *structural* barrier to market entry for potential competitors. This is because geographical proximity to customers and local care is a basic prerequisite for listing a hearing aid manufacturer.

Today, the market success of hearing aids is determined by purely subjective "feel-good factors" alongside the technological optimisations already described above. Thus, the market positions of the enterprises already operating in the market are established and, in the view of the Decision Division, they are practically unassailable. This leads to the deterrence of potential competitors that would have to accept cost-intensive and lengthy development processes in order to enter the market. The high costs of developing a digital hearing aid of their own in combination with the economies of scale required to successfully operate in the market impede market entry and have even led in the past to smaller competitors, such as Acousticon, losing all their market significance for the manufacture and sale of hearing aids. In the context of a largely "divided" market for hearing aids in Germany, the market position of the oligopoly in particular, consisting of SAT, Phonak and Oticon, is structurally secured.

### **6.1.5.2 Strategic barriers to market entry**

The barriers to market entry described are exacerbated by the *strategic* behaviour of the oligopolists in particular. They have a patent network, both with regard to basic patents (HIMPP) and with regard to patents required for product enhancements, which facilitates the strategic foreclosure of the hearing aid market vis-à-vis potential competitors. A third-party development directed at the hearing aid market would therefore always bring with it the danger of contravening patents. Comparable strategic barriers to market entry would also exist if a potential hearing aid manufacturer wished to introduce its product portfolio to German hearing aid retailers

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### **6.1.5.3 The significance of the suppliers Sonic and auric**

It is unlikely that Sonic and auric, which currently supply their equipment exclusively directly through ENT doctors, could become significant current competitors through selling through hearing aid retailers. Hearing aid manufacturers that supply their hearing aids directly through ENT doctors are currently denied access to hearing aid retailers. In its poll of hearing aid retailers, the Decision Division did not discover any case where a hearing aid retailer listed a supplier that competed with him in supplying directly through ENT doctors.

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### **6.1.5.4 No market entries in the past**

In the last ten years, there have been no attempts to gain market access to the German hearing aid market for the manufacture for and sale to hearing aid retailers...

### **6.1.6 No countervailing buyer power**

According to the Decision Division's findings, it is unlikely that the oligopoly's scope of conduct is effectively limited through countervailing buyer power. Prerequisites for the existence of countervailing market power are firstly that there are strong consumers and secondly that they distribute their sales according to strategic considerations, if necessary deliberately selecting competitors so as not to become dependent on one or several (dominant) suppliers.<sup>11</sup>

Even before the merger, these structural prerequisites do not exist in the market for the manufacture of hearing aids and their sale to hearing aid retailers. The level of concentration on the supply side far exceeds the level of concentration on the demand side. The structure of the hearing aid audiology trade in Germany features around 15 to 20 multiple shops with more than ten branches that operate nation-wide, half a dozen large

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<sup>11</sup> Cf. Federal Court of Justice, *Wirtschaft und Wettbewerb/Entscheidungssammlung* 1749, 1752 – Klöckner-Becorit.

purchasing groups and approximately 1,500 enterprises with between one and three branches. The 15 largest multiple shops and purchasing groups account for a purchasing volume of less than 50 per cent by value of all hearing aids purchased in Germany through hearing aid retailers. Even the purchasing volumes of each of the largest multiple shops, Kind and Geers, are currently both well below 10 per cent. In the view of the Decision Division, they have no significant countervailing buyer power in the market for hearing aids.

...

In evaluating countervailing market power, the question arises as to whether the function of effective competition – e.g. the function of effective competition on innovation and on price – can be replaced adequately in individual cases by buyer power and strategic purchasing behaviour. In the view of the Decision Division, this is to be answered in the negative in the present case. Hearing aid retailers have neither the buyer power nor the will to initiate such competition on innovation and/or price between the oligopolists. Rather, the present case distinguishes itself by the fact that hearing aid manufacturers and hearing aid retailers in Germany have largely common interests which do not lie in exerting competitive pressure on one another, but in the effort to achieve the highest possible profit margin from final customers both for manufacturers and for hearing aid retailers. Such similar interests are possible when the final customer – as in the relevant market here – has no product or price transparency.

The "gatekeeper" position which Phonak claimed hearing aid retailers have does not in itself provide any additional information concerning the question of the existence of countervailing buyer power. It is ultimately a description of the sales structure of manufacturers, retailers and final customers. A negative answer is to be given to the question finally raised by Phonak as to whether hearing aid retailers are able and willing to push through strategic buying patterns vis-à-vis a narrow oligopoly on the supplier side with the corresponding market effect, partly on account of end customers' lack of product and price transparency. This conclusion is based on the following considerations:

- The demand side is very fragmented and is for that reason alone unable to push through strategic purchasing behaviour with the relevant effect on the market. Apart from the few large multiple shops and purchasing groups, the purchasing volumes of the small enterprises characteristic of the demand side are too small to be able to make any promising attempt at developing strategic buying patterns.
- Since the digitalisation of hearing aids at the latest, hearing aid retailers have not had the competence concerning costs and development to be in a position to initiate competition between the leading suppliers. In adapting the hearing aids, they are largely dependent on the manufacturers' product quality and effective adaptation software.

- The hearing aid retailers are not themselves subject to competition on price. Final customers only receive transparency on the final price after selecting the hearing aid and having it fitted. They do not usually go to a different hearing aid retailer after a comparative adaptation has been completed. For this reason alone, hearing aid retailers have little need to put price pressure on manufacturers. The fact that the average bulk discount on manufacturers' list prices is approximately 30 per cent does not contradict this. Due to the high profits of hearing aid retailers and the stability of the sales prices of all manufacturers, it is to be presumed that the amount of the list price does not provide any reliable information on the final pricing. This is also highlighted by the fact that a comparison of different manufacturers' list prices shows them to be largely the same.
- The lack of competition at the level of hearing aid retailers is also clear when one sees the retailer's own extremely high margin added to the manufacturer's sales price. The Decision Division has an intended SMEs' cooperation agreement for calculating and pricing hearing aids which is to be examined under competition law. This is based on an old SMEs' cooperation agreement and provides for margins of approximately 190 per cent to 500 per cent (!) for hearing aid retailers, depending on the manufacturer's sales price. The margins derive mainly from the amount charged by the audiologist for his technical work (adaptation of the hearing aid) and the consultancy costs.
- In the view of the Decision Division, the software solution NOAH leads to a further tying of the hearing aid retailers on the demand side to the hearing aid manufacturers that are established in the market.

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### **6.1.7 Overall view of the conditions of competition before the merger**

In the present case, the Decision Division has to examine a merger in a market that does not offer an appropriate environment for oligopolist parallel behaviour with regard to product differentiation and technical progress per se. The digitalisation of hearing aids led to upheaval in the hearing aid market, the products are not homogeneous, but are adapted to a portfolio and the pricing is differentiated accordingly.

Nevertheless, the result of the Decision Division's market investigations was that there is an oligopolist market structure featuring much less internal competition than the above-mentioned market circumstances would have led one to expect.

The Decision Division found structural conditions that support oligopolist parallel behaviour and impede significant competition. They ranged from the stability of the conditions of supply and demand to the transparency concerning product developments and the time of product launches to the ZVEI notification system and strongly asymmetrical product and price transparency at the expense of consumers.

The hearing aid manufacturers – and this applies particularly to the three large suppliers SAT, Phonak and Oticon – have placed the market in a cooperative environment since the beginning of digitalisation by pooling basic patents and application-oriented industrial property rights, an environment that promotes oligopolist parallel behaviour in introducing product innovations. In addition, the hearing aid manufacturers in Germany have jointly defined the product portfolio and the price segments in the market for hearing aids. In line with these price categories defined in the ZVEI notification system, all manufacturers have successively “filled up” their product portfolio and have structured their product range accordingly. The result of the notification system, which is based on this segmentation, is an agreement of list prices and a convergence of manufacturers’ sales prices.

The Decision Division fully appreciates that Phonak achieved a stronger influence within the oligopoly through its very effective brand policy between 2003 and 2006. However, this strengthening was mainly at the expense of the outsiders to the oligopoly. Phonak did not attack the market positions of the other oligopolists in a way of relevance to the decision. Although SAT also saw slight market share losses, these shifts in the middle single-figure range are not in themselves sufficient to provide evidence of significant competition within the oligopoly. This applies particularly in the context of the fact that in the wake of market digitalisation, a significant change in the market would have been likely, also at the expense of some members of the oligopoly.

In the view of the Decision Division, the competition for product launches that could be observed in the past in combination with comparatively short product life cycles also do not constitute strong evidence of the existence of internal competition.

The hearing aid manufacturers’ capacity for development is very similar on account of their cooperation, and for the most part they are working on the same focal areas of development and have a complete product portfolio. For this reason, competitive pushes by individual manufacturers can very quickly be taken up by the competition, sometimes within a few months. Every manufacturer knows the developments on which its competitors are currently working. The Decision Division is unable to see any shifts in the market structure resulting in new product launches which could have led to a permanent genuine shift in the balance of power within the oligopoly, for example by changing the market leadership.

In the future, unlike in the past, rapid technical developments are unlikely. Instead, there are likely to be improvements in specific areas. In this context, the importance of technical developments from the point of view of competition will decline and enhancements of the so-called feel-good factors and greater efforts in the field of marketing will become more important.

In the view of the Decision Division, competition on price and conditions is also already no longer significant. One result of the very differentiated possibilities of evaluating the ZVEI

notifications, for example, has been the considerable discipline regarding price competition. In spite of the structural changes in the hearing aid market in combination with the increased volumes in the individual segments, some of them considerable, a surprising price discipline can be seen over time that has even allowed price rises to be made, particularly in the high-price segments. Essentially, it is only the competitor GN ReSound that has deviated, sometimes very significantly, from the price behaviour of the other competitors.

In addition, the competition on conditions, which in Phonak's view is not taken into account in the ZVEI files, would have had to have a significant effect on the development of the average manufacturers' sales prices. However, the Decision Division was unable to observe any relevant price changes, which would then have had to be different in the case of the individual oligopolists.

Of course, the Decision Division cannot prove that the individual prices of the hearing aid manufacturers for comparable products are practically the same. That would also not be necessary in order to prove that there was oligopolist parallel behaviour. However, it is in a position to provide evidence that the price strategy relating to price segments and product groups shows very considerable parallels and coordination which cannot be ignored when examining an oligopolist market.

...

The result is that the Decision Division has considerable doubts as to whether significant competition within the oligopoly is to be presumed in the present case. Upon closer analysis, the arguments presented for significant internal competition by the parties to the merger are not important enough to be a clear indication of considerable competition within the oligopoly combined with corresponding changes in the balance of power. At any rate, competition in the domestic hearing aid market, particularly between the enterprises SAT, Phonak and Oticon, has been very much weakened. The merger will remove a large proportion of the competitive impetus still remaining, further facilitate coordination within the oligopoly and thus lead to the creation of a dominant oligopoly.

## **6.2 Creation of a dominant oligopoly as a result of the merger**

The Decision Division is of the opinion that the merger will weaken further the competitive elements still existing between the oligopolists SAT, Phonak and Oticon, with the result that after the merger between them, no significant competition is likely. On account of the oligopoly's increasing market shares and the neutralisation of the corporate resources previously expended by GN ReSound in competition and on account of its likely future competitive actions, the creation of a dominant position as a result of the merger is therefore likely. It is to be taken into account here that the Decision Division already has considerable doubts as to whether significant competition within the oligopoly may be presumed with regard to the situation before the merger. Upon closer analysis, the

arguments for significant internal competition presented by the parties to the merger are not so important as to enable significant competition within the oligopoly to be clearly recognised in combination with the relevant changes in the balance of power.

### 6.2.1 Higher level of concentration

The suppliers Siemens, Phonak and Oticon will reach a joint **market share** of just under 90 per cent after the merger. This share is currently at a level of more than 80 per cent. The level of concentration would thus increase considerably, especially since Widex, the only remaining competitor with a domestic market share of any significance, has a market share of less than 10 per cent. The merger would also lead to an increase in the market-share-related symmetry within the oligopoly. After the merger, Phonak would be just behind SAT and ahead of Oticon.

GN ReSound has a **market share** of between 12.5 per cent and 17.5 per cent **in Europe and world-wide**. Its loss of market share in these markets is lower than in Germany. Thus, GN ReSound is number four both in the European and the global market, considerably ahead of Widex. The three oligopolists would thus not only increase their joint market share in Germany, but also in Europe and around the world. After the merger, their joint market share in Europe would be well over 80 per cent. World-wide, their joint market share would be approximately 80 per cent.

**Table 13: Market shares in 2006 after the merger**

	<b>2006</b>
	in %
1 Siemens	32.5-37.5
2 Phonak	27.5-32.5
3 Oticon	20-25
<b>Total of 1-3 above</b>	<b>Approx. 90</b>
5 Widex	5-10
6 bruckhoff	<2.5
7 Starkey	<2.5
8 Audifon	<1
9 Acousticon	<1
Total	100%

### 6.2.2 GN ReSound is the next-closest competitor to the oligopolists with regard to its corporate resources.

In order to answer the question of whether a dominant oligopoly would be created, the whole entrepreneurial potential of GN ReSound has to be measured and it has to be evaluated to what extent the commitment of these resources to the oligopoly would take away further competitive pressure from the oligopolists and would increase the extent of their joint responses. GN ReSound's corporate resources as the number 4 in the global

hearing aid business are much stronger than the development of its market shares in Germany would lead one to expect.

### 6.2.2.1 Corporate data

GN ReSound's **total external sales proceeds** in the global hearing aid business are not very much lower than the relevant turnovers of SAT, Phonak and Oticon; they are thus more than twice the amount of Widex's total turnover in the hearing aid business.

Its **R&D expenditures** including the relevant expenditures on licence fees are between 5 and 10 per cent of turnover, exactly like those of the other oligopolists, and thus, they match the level of the average costs of R&D of enterprises operating in medical technology.

GN ReSound has a **production site** in Xiamen, China, and can – like the other oligopolists – achieve correspondingly inexpensive production costs.

The same applies to its **sales costs**; GN ReSound's relevant costs are somewhat higher than those of Phonak, but are between 20 and 30 per cent of turnover, like those of the other oligopolists.

Like the oligopolists, GN ReSound has a number of hearing aid brands, such as its second brands **Beltone and Interton**, and, like the oligopolists, it is in a position to apply a **multiple-brand strategy** to the market. Widex, in contrast, has just one brand.

GN ReSound's **gross margin** is approx. 65 per cent and is thus similar to the published gross margins of Phonak and Oticon. Thus, GN ReSound's gross profits are nearly the same, in spite of its declining market shares.

It is only with respect to its **EBITDA** that GN ReSound is behind the oligopolists, according to the information available. This profit-related indicator reflects the GN ReSound's market share losses in recent years.

In this respect, GN ReSound is in a very similar position to the oligopolists with regard to its key business data. In this respect, it is the strongest force in the market apart from the oligopoly with regard to total turnover, market share, production capacities, available brands and profitability.

### 6.2.2.2 Involvement of GN ReSound's development potential

Phonak sent the Decision Division documents produced in connection with the intended takeover of GN ReSound. According to these documents, GN ReSound has already started to draw the entrepreneurial consequences from the **weaknesses of its sales and brand strategy** in the past. The situation appears to be very comparable with the situation of Phonak in 2002. Both in the due diligence documents submitted and in the market itself, GN ReSound's present business weaknesses are to be seen less in its technical potential than in its marketing of its product portfolio and the management of its sales system. An

exception is its adaptation software, which was evidently also partially responsible for the unsuccessful product launch of the high-end hearing aid Metrix.

On the other hand, Phonak is of the opinion that GN ReSound has a good **patent portfolio**. This relates firstly to products that have already been launched. The Decision Division is aware, for example, that Phonak and GN ReSound have had different views in the past concerning the patentability of the casing design of ReSound Air. Phonak had planned an almost identical casing design for microSavia and had to change it before launching it on the market so as not to be drawn into a patent dispute with GN ReSound. In its statement, Phonak fails to recognise the importance of this patent dispute for the Decision Division. It is by no means to be seen as an example of behaviour that restrains competition, but rather as an indication of the fact that GN ReSound has to date used its industrial property rights, whether they were technology patents or design patents, also in competition against the other hearing aid manufacturers. GN ReSound is less involved in exchanging patents and licences than the three oligopolists SAT, Phonak, and Oticon are with one another...The Decision Division therefore expects that the level of technological development between the oligopolists will converge further and market transparency for the oligopoly will become stronger as a result of the merger. This is because GN ReSound is currently working on product developments that are of great interest to the potential purchaser Phonak, according to the latter's own statement.

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### **6.2.3 Involvement of a competitor that is active on price / Effects on price competition and price transparency within the oligopoly**

In recent years, GN ReSound has tried to cushion the decline of its market shares by means of a "**selling by price**" strategy. GN ReSound's prices in 2006 were well below the average manufactures' sales prices of all its competitors in all price segments contained in the ZVEI notification system. Although this low-price strategy did not lead to a corresponding stabilisation of market shares, GN ReSound's policy on conditions vis-à-vis hearing aid retailers in the last two years clearly has differed significantly from the policies on conditions of the other hearing aid manufacturers operating in the market. As a result of the merger, the only competitor still active on price would be taken over by one of the oligopolists, even if GN ReSound has been unable to translate this price competition into corresponding market share increases due to mistakes in its branding and sales policy and due to the oligopoly's strong position in the market even before the merger.

After the merger, the oligopolists SAT, Phonak and Oticon would be able to monitor and secure the stability of manufacturers' sales prices even better than previously. The price transparency and informational value of the **ZVEI notification system** would significantly increase, in particular for two reasons.

Firstly, only four enterprises with market shares of any significant value would be participating in the notification system in Germany. According to the rulings by the Düsseldorf Higher Regional Court of 26 July and 30 September 2002 concerning the "Statistical information system for ready-mixed concrete"<sup>12</sup> a notification system is impermissible under competition law if it involves fewer than five enterprises with a significant market share. Only if a sufficient number of enterprises take part in the notification process is it guaranteed that the average data shown in the responses (total supply volumes, average prices) cannot be decoded and traced to individual enterprises or business transactions. On account of the high degree of market transparency in the present case, not only on account of the ZVEI notification system, but also on account of other structural conditions, the present notification system could already be impermissible under competition law. This is because non-identifying market information processes may contravene Section 1 of the ARC and Article 81 of the TEU insofar as they put a participant in the position to recognise a competition push on price, and not only when they also allow its initiator to be identified.<sup>13</sup> Particularly in the case of oligopolist markets, the Commission, too, regards the potential danger of non-identifying market information systems as being particularly high.<sup>14</sup> The convergence of the oligopolists' manufacturers' sales prices (see marginal notes 231 and 233 above) demonstrates the effective functioning of the existing system. This effectiveness will be further improved by the merger.

Secondly, Phonak would take over the only competitor that is active on price. After the merger, Widex would be the only remaining competitor of any significance with market shares of more than 5 per cent. However, Widex has not been an active competitor on price in the past; its manufacturers' sales prices are all at the level of the oligopolists or slightly above them. Monitoring the manufacturers' sales prices, which have been tacitly agreed, will be even easier in future than it already is without the potential for disruption of a price-active competitor.

#### **6.2.4 Alignment of symmetry in relation to audiological diagnosis and measurement equipment**

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<sup>12</sup> Kart 37/01 (V).

<sup>13</sup> See also Wagner-von Papp, *Marktinformationsverfahren: Grenzen der Information im Wettbewerb*, Baden-Baden 2004, p. 241 f.

<sup>14</sup> Guidelines on the assessment of horizontal mergers under the Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings, item 52 and footnote 70.

### **6.2.5 Further improvement of coordination and defence mechanisms within the oligopoly**

On account of the structural conditions described above, it is in the view of the Decision Division already relatively easy now to reach agreement on the conditions of coordination in the market for the manufacture of hearing aids and their sale to hearing aid retailers. The enterprises can also monitor to a sufficient extent whether the coordination modalities are being adhered to and they have the opportunity to set into motion credible deterrence mechanisms at any time if a deviation were to come to light. The Decision Division bases the results of its investigations in this connection on the following parameters:

Through pooling their basic patents through **HIMPP**, hearing aid manufacturers placed the digitalisation of hearing aids on a joint basis at a very early stage. This has led on the one hand to the establishment of an industrial standard, and on the other it placed the competition for digitalisation in an extremely cooperative environment from the outset. HIMPP's key function is seen by its partners as being an important common link. Simply through participating in HIMPP and holding meetings at least twice a year, the partners are engaged in an ongoing exchange of information through the HIMPP patent portfolio and through the possible involvement of other enterprises in the partnership. The merger would lead to the oligopoly having the majority of voting rights in the administrative council, which is responsible for managing the joint venture ([...] voting rights). The involvement of GN ReSound, which previously had [...] voting rights, will thus enable the oligopolists to push through their joint interests within HIMPP.

The same applies to the cooperation within **HIMSA**...

The **exchange of patents between the oligopolists** also already relates to current product developments with key market significance. Reciprocal licensing takes place on repeated occasions as the manufacturers' focal areas of development are very similar and there is thus the repeated danger of patent disputes. This exchange of patents has already led to a technological lockstep between SAT, Phonak and Oticon in the past. It not only offers a forum to reach agreement on the conditions of coordination on an agreement. In the view of the Decision Division, the market-wide patenting of features, design and components can also be used as a strategic means of pushing through tacit or explicit coordination within the oligopoly or vis-à-vis outsiders. It is beyond dispute that even now, the threat of contraventions of patents are commonplace due to the technological closeness of the oligopolists and usually, they are averted through (reciprocal) licensing free of charge. This enables the oligopolists to ensure that technologies remain transparent and that behaviour in the competition for technology is largely coordinated. The inclusion of GN ReSound's patent portfolio will further facilitate this coordination and its monitoring. Patents will also gain even greater significance in competition as disciplining instruments.

In the end, the merger would lead to the **supplier structure** being reduced to four enterprises with market shares of any significant size. In Germany, the oligopoly would have market coverage of 90 per cent after the merger. In itself, this will further facilitate the monitoring and pushing through of effective coordination...

In the view of the Decision Division, the **consumers of hearing aids** in Germany do not have the countervailing buying power to ensure sufficient competition within the oligopoly.

... In particular through the constant, ongoing contact with the opposite side of the market, the oligopolists have the opportunity to recognise quickly any contraventions of the oligopoly's discipline that have an effect on the market. The narrowing of the supplier structure through the merger would further facilitate this.

...

The Decision Division has already shown in detail that close customer relations and ongoing customer care in combination with the **ZVEI notification system** have greatly increased transparency with regard to market share structure and pricing. This meant that the upheavals in the market in the wake of digitalisation did not lead to a loss of transparency. Today, the ZVEI notification system is another strong instrument for creating transparency regarding market shares and prices, recognising contraventions and possibly taking countermeasures. In combination with the extensive transparency on technologies and the "technological lockstep" of the oligopolists, competitive pushes, regardless of whether they result from product launches and/or reductions in manufacturers' sales prices, can be recognised and acted upon immediately even for individual price segments of the market.

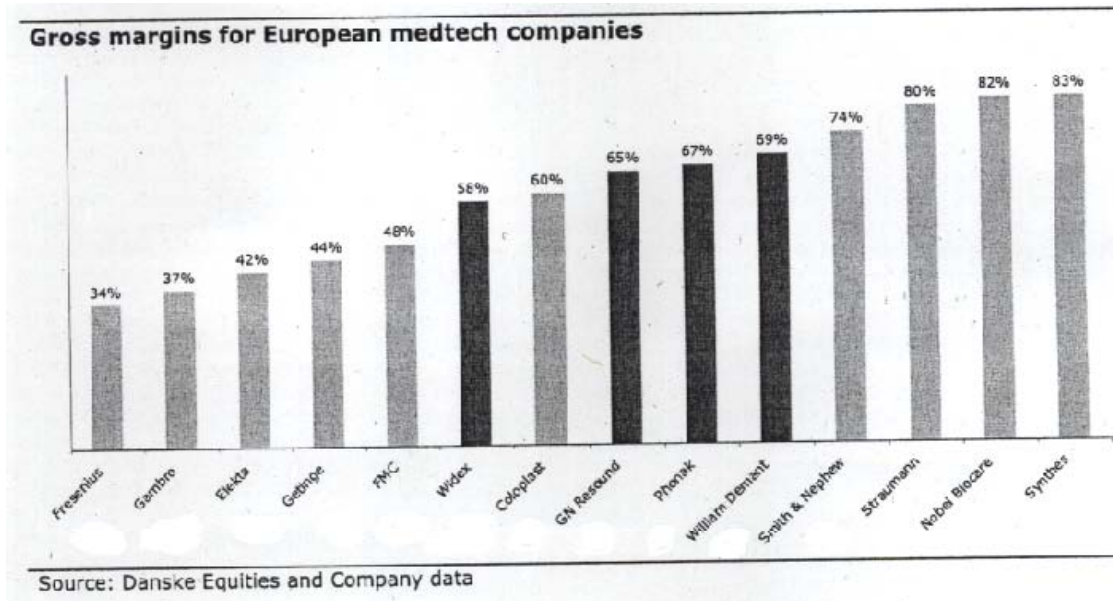
#### **6.2.6 No reduction in the oligopoly's market share after the merger**

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#### **6.2.7 Market result**

The hearing aid industry is an extraordinarily profitable economic sector. That applies not only in comparison with other industries, but also in comparison with medical technology, which is generally profitable. The following graph shows a comparison of the gross proceeds (gross margins) of enterprises in the medical technology sector.

**Graph 9:** Gross proceeds in the leading group in the medical technology sector



The graph shows that all leading hearing aid manufacturers are among the most profitable enterprises, with gross proceeds of approximately 60 to 70 per cent of turnover. SAT is not included, as it does not publish any relevant data. According to its own information, SAT's gross profits lie between the comparative values of GN ReSound and Widex.

...

...

The Decision Division has established the EBITDA of all leading suppliers and has ascertained that it is between 25 per cent and 35 per cent of their turnover. Such an EBITDA value is unusually high. The average EBITDA value for European chemicals enterprises in 2003, for example, was approx. 15 per cent, the top value for German hospital operators was 18.3 per cent, DaimlerChrysler's EBITDA value for 2006 was approx. 11 per cent, Bertelsmann's was approx. 9 per cent, Nestlé's was approx. 15 per cent in 2002 and BMW's was approx 14.6 per cent in 2005.

The amount of the profits made in the hearing aid industry give grounds for serious doubts as to whether structural conditions of competition that lead to significant competition on price exist in the market for hearing aids, thus ensuring that profits are relevantly limited by competition. These doubts are evidently also shared by analysts.

...

It is evidently assumed that in the market of all the manufacturers, a pronounced profit maximisation strategy is being implemented that is only limited by monopoly prices, i.e. when there is the danger that purchasers will not purchase at all on account of the high

price and that a price increase therefore no longer makes economic sense, even for the monopolist.

Phonak's objection that the market exits of recent years make clear that the market is not profitable per se is not correct. The Decision Division has not denied that a major criterion for market success as a hearing aid manufacturer lies in realising economies of scale. Thus, the market exits of recent years involved only small suppliers that did not have access to new generations of microchips or competitive manufacturing costs due to the fact that they did not have economies of scale. However, this does nothing to change the fact that even in the context of market structures ascertained by the Decision Division and in view of the market events presented, structural conditions of competition prevail in the hearing aid markets that cannot ensure that there is significant competition on price and thus a relevant limitation of the profits through competition. As a result of its investigations, the Decision Division is not of the opinion that the technological developments and increases in efficiency in the German hearing aid market maintain effective competition or that consumers receive an appropriate share of these efficiency gains.

Overall, it is likely that profits will increase even further in the hearing aid market...The Decision Division fully appreciates here that the likely increased profits are not only due to autonomous price increases by manufacturers, or even due to collusion on price. On the contrary, a considerable share of the increased profits will be due to a continual increase in the numbers sold, with the result that lower piece costs will be incurred on account of economies of scale and thus, profits can rise. These economic circumstances constantly boost private enterprise. The problem regarding competition lies in the fact that in the past competition mainly involved the product portfolio but not price to an equal extent. However, since competition is limited in this way, it cannot fulfil its (main) function of limiting prices in the interests of consumers. On the contrary, it is to be seen that GN ReSound's attempt to compete on price was not ultimately successful. In so far Phonak, as well, has already announced that the company will abandon this strategy.

“He (Phonak's CEO) also emphasised that some of the growth will be driven by higher average selling prices in the ReSound arm. He stated that GN ReSound's ASPs are significantly below Phonak's on all product categories, but that they will be closing some of the gap going forward. This will naturally also be supportive for the overall growth in the 'new Phonak'”.<sup>15</sup>

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<sup>15</sup> Danske Equities company report, ebenda, p. 9, folio 1026 of Annex 8.

To this extent it is also explainable that analysts do not expect competitors to be adversely affected by the merger. On the contrary, the more limited competition will benefit them too. In addition, they can even expect that possible slimming-down effects, the likely result of "negative sales synergies", would benefit competitors in the form of additional turnover.

The result is that the synergies achieved by the merger through pooling research and development, achieving greater economies of scale and involving a competitor which was previously active on price do not lead to Phonak's strengthening within the oligopoly in terms of "more competition". In the view of the Decision Division, the merger will lead to a strengthening of the oligopolist parallel behaviour, which is already pronounced. After the merger, the positive market results of individual oligopolists in the past will improve further. In the view of the Decision Division, this will be at the expense of efficient competition on innovation and pricing, and thus at the expense of consumers.

## **7. Proposal for clearance**

In the view of the Decision Division, clearance of the merger with remedies on the basis of Phonak's proposal of 20 March 2007 is not possible (Section 40 Paragraph 3 of the ARC).

Insofar as the enterprises offer conditions or commitments, these must in total be appropriate to allow the conditions for prohibition of the decision to be dropped. "Balancing" on the basis of supposed principles of proportionality under constitutional and international law is not possible.

Phonak has suggested that Phonak and GN ReSound do not take part in the **ZVEI notification system** after the merger. This undertaking is to be evaluated positively from the point of view of competition, but it is already required under competition law. The Decision Division presumes that the ZVEI notification system contravenes Section 1 of the ARC and Article 81 of the TEU. According to the rulings of the Düsseldorf Higher Regional Court of 26 July and 30 September 2002 concerning a "Statistical information system for ready-mixed concrete", a notification system is impermissible under competition law if it involves fewer than five enterprises with significant market shares. Only if a sufficient number of enterprises take part in the notification process is it guaranteed that the average data indicated in the response (total supply volume, average prices) cannot be decoded and attributed to individual enterprises or business transactions. The existing notification system could even be impermissible already under competition law on account of the high level of market transparency in the present case not only on account of the ZVEI notification system, but also due to other structural conditions. This is on account of the fact that even non-identifying market information processes can contravene Section 1 of the ARC or Article 81 of the TEU if they enable a participant to recognise a competitive push on pricing and not only if they also enable them to find out who initiated it.

Phonak has also offered to terminate its **cross-licensing agreement** with Oticon and not to conclude comparable agreements in the future either with Siemens or with Oticon. In addition, Phonak will attempt to reverse the exchange of licences that has already taken place within the context of cross-licensing agreements.

Refraining from concluding cross-licensing agreements can in principle contribute to limiting an exchange of technology between market participants that would place a damper on competition. In the present case, however, the following has to be taken into account: regardless of the question of whether the patent licensing agreement still existing between Phonak and Oticon is terminated, companies will in future either exchange technology in connection with application-oriented technologies or will refrain from attacking patent infringements. The leading hearing aid manufacturers, including Phonak, have themselves stated that reciprocal licensing is and has to be the order of the day because the manufacturers' focal areas of development are very similar and there is therefore always the risk of patent disputes. Often, enterprises are working on product developments where competitors have already filed applications for patents. To this extent, the Decision Division is not of the opinion that the enterprises involved can resolve the problem inherent in the market structure of extensive technology exchange and technological lockstepping between the oligopolists only by offering to agree to end certain licensing agreements and to refrain from signing any such agreements in the future. In addition, it is to be taken into account that the exchange of patents planned within the framework of the cross-licensing agreement signed by Oticon and Siemens has already taken place. In the context of the fact that the exchanged industrial property rights have also been used for product families that have already been launched onto the market (e.g. the Savia product family), it is not evident here what actual market effects termination of and "endeavouring" to (partially) reverse patent exchange could have. Phonak has also not made any statement on this subject.

The proposal that Phonak and GN ReSound end their **partnership within HIMPP** would improve the structural conditions in the hearing aid market, but this would be true only to the extent that the Decision Division has presumed the existence of a strengthening effect on account of the fact that the merger would lead to the oligopoly receiving the majority of voting rights in the governing board responsible for managing the joint venture. The involvement of GN ReSound, which previously had four of the twelve voting rights, would then enable the oligopolists to push through their joint interests within HIMPP. Only this effect would lapse as a result of approval.

But even after the departure from the partnership within HIMPP, Phonak and GN ReSound would be dependent on the patent portfolio being licensed on account of HIMPP's gatekeeper function. Otherwise, they would continually breach patents in developing new

hearing aids. Thus, in the Decision Division's current view, withdrawing from partnership with HIMPP would not have any major substantial effects on the conditions of competition.

In the context of the limited market effect of the proposals discussed above, the question of whether the structural **proposals for sale** offered would be suitable to allow the conditions for the prohibition to lapse is highly significant.

...

Overall, then, the proposed remedies are not objectively suitable in their entirety to remove the Decision Division's competitive concerns. Transferring GN ReSound's present market position to a third enterprise is unlikely in the context of it being essentially a [...].

## **8. Causality**

...

## **9. General observation**

Having said all this, it is likely that the merger would lead to SAT, Phonak and Oticon gaining a dominant position.

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