II

*(Acts whose publication is not obligatory)*

# COMMISSION

## COMMISSION DECISION

**of 2 September 2003**

**declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement**

**(Case COMP/M.3083 — GE/Instrumentarium)**

*(notifed under document number C(2003) 3156)*

**(Only the English text is authentic)**

**(Text with EEA relevance)**

(2004/322/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to the Agreement on the European Economic Area, and in particular Article 57 thereof,

Having regard to Council Regulation (EEC) No 4064/89 of 21 December 1989 on the control of concentrations between undertakings [1], as last amended by Regulation (EC) No 1310/97 [2], and in particular Article 8(2) thereof,

Having regard to the Commission's decision of 3 April 2003 to initiate proceedings in this case,

Having regard to the opinion of the Advisory Committee on Concentrations [3],

Having regard to the final report of the Hearing Officer in this case [4],

Whereas:

(1) On 28 February 2003, the Commission received notification of a proposed concentration pursuant to Article 4 of Regulation (EEC) No 4064/89 (the Merger Regulation), whereby the US company General Electric Company (hereinafter referred to as GE) proposes to acquire sole control of the whole of the Finnish company Instrumentarium OYJ (hereinafter: Instrumentarium), by way of a public tender offer announced on 18 December 2002.

(2) On 3 April 2003, having examined the notification, the Commission concluded that the notified operation fell within the scope of the Merger Regulation and that it raised serious doubts as to its compatibility with the common market and the EEA Agreement. The Commission therefore initiated proceedings in accordance with Article 6(1)(c) of the Merger Regulation.

(3) On 28 April 2003, the Commission adopted a decision pursuant to Article 11(5) of the Merger Regulation, due to the fact that GE had not provided full responses to a request for information dated 7 April 2003 relating in particular to bidding and other data which was necessary to determine the competitive position of GE in the markets for patient monitors, mammography devices and C-arms. GE had been requested to supply the information by 14 April 2003. GE supplied the requested information on 15 May 2003. Accordingly,

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[1] OJ L 395, 30.12.1989, p. 1; corrected version OJ L 257, 21.9.1990, p. 13.
[2] OJ L 180, 9.7.1997, p. 1.
[3] OJ C 92, 16.4.2004.
[4] OJ C 92, 16.4.2004.

pursuant to Article 9 of Commission Regulation (EC) No 447/98 of 1 March 1998 on the notifications, time limits and hearings provided for in Council Regulation (EEC) No 4064/89 ([5]) on the control of concentrations between undertakings, the time periods referred to in Article 10(1) and (3) of the Merger Regulation were suspended for a total of 18 days.

(4) Following an in-depth investigation of the case, the Commission takes the view that, although the notified proposal is liable in itself to lead to dominant positions as a result of which effective competition would be significantly impeded in a substantial part of the common market, the commitments given by the notifying party serve to remove the concerns as to the compatibility of the concentration.

(5) The Advisory Committee discussed the draft of this Decision on 12 August 2003.

## I. **THE PARTIES**

(6) GE is a diversified company, active in various manufacturing, technology and service businesses, including medical systems. GE Medical Systems specialises in medical diagnostic imaging technology, including patient monitors, and related services and health care products.

(7) Instrumentarium is active in the development, manufacture and sale of medical equipment and technology related to the areas of anaesthesia and critical care, including patient monitors and anaesthesia delivery machines, in particular, under the names Datex-Ohmeda, Spacelabs Medical and Ziehm.

## II. **THE OPERATION AND THE CONCENTRATION**

(8) The proposed operation concerns the acquisition of sole control of Instrumentarium by GE. The acquisition, according to a Combination Agreement signed on 18 December 2002 by the two parties, is performed by way of a voluntary public tender offer, made through a newly formed Finnish entity that is a wholly owned subsidiary of GE.

(9) On the basis of the foregoing, the proposed acquisition, whereby GE acquires sole control over Instrumentarium, constitutes a concentration within the meaning of Article 3(l)(b) of the Merger Regulation.

## III. **COMMUNITY DIMENSION**

(10) The undertakings concerned have a combined aggregate world-wide turnover of more than EUR 5 billion (GE EUR 141,023 million and Instrumentarium EUR 1,163.8 million in 2001) ([6]). Each of GE and Instrumentarium have a Community-wide turnover in excess of EUR 250 million (GE EUR […] (*) million and Instrumentarium EUR […]* million in 2001), but they do not achieve more than two-thirds of their aggregate Community-wide turnover within one and the same Member State. The notified operation therefore has a Community dimension within the meaning of Article 1(2) of the Merger Regulation.

## IV. **COMPETITIVE ASSESSMENT OF THE NOTIFIED CONCENTRATION**

*THE RELEVANT MARKETS*

### A. THE RELEVANT PRODUCT MARKETS

(11) The proposed concentration relates to the field of medical equipment, the main market segments affected by the notified transaction being patient monitors, mobile C-arms and mammography devices.

#### 1. ***Patient Monitors***

**General description of the products**

(12) Patient monitors are machines that take measurements of physiological parameters as a representation of a patient's well-being. These functions are performed whilst a patient is either undergoing treatment or recovering. Sensors attached to the patient detect different parameters (electrical, mechanical and chemical events) which are converted to electrical signals displayed on a screen (or printouts). The parameters are

([5]) OJ L 61, 2.3.1998, p. 1.

([6]) Turnover calculated in accordance with Article 5(1) of the Merger Regulation and the Commission Notice on the calculation of turnover (OJ C 66, 2.3.1998, p. 25). To the extent that figures include turnover for the period before 1 January 1999, they are calculated on the basis of average ECU exchange rates and translated into EUR on a one-for-one basis.

(*) Parts of this text have been edited to ensure that confidential information is not disclosed; those parts are enclosed in square brackets and marked with an asterisk.

vital signs, which vary from the very basic (namely temperature) to the very advanced (such as an electroencephalograph). Patient monitors can measure a number of them simultaneously and are used together with other medical equipment, in particular ventilators, anaesthesia machines and, in some cases, with clinical information systems.

(13) Patient monitors can be sold either configured or in modules. In configured monitors the parameters to be measured are built-in during the manufacturing process and are fixed for the monitor's life. Modular monitors have a display and a central unit which contains a processor and a number of slots where modules to measure different parameters can be inserted.

**Distinction between different types of monitors**

(14) The notifying party has submitted that patient monitors are used in various care areas within a hospital and that, in each of the care areas, the parameters to be measured determine the characteristics needed for the monitors. In each area, the shares of the merging parties and the purchasing processes are different, there are price variations, and the building up of a reputation as a credible supplier is difficult.

(15) In this context, the notifying party suggests a segmentation whereby three markets can be distinguished: (i) Perioperative Monitors (PO), (ii) Critical Care Monitors (CC) and (iii) General Ward Monitors (GW).

(16) PO monitors are used in the perioperative area, that is,. mainly in the operating rooms (OR) as well as in the induction rooms and the recovery room (post-anaesthesia care units — PACU). This type of monitor can be connected to anaesthesia machines in operations performed under general anaesthesia, where the inhaled and exhaled gases need continuous monitoring in order to ensure a sufficient level of anaesthesia and successful recovery. PO monitors usually include specific modules to measure parameters not used in CC, such as respiratory gases ($O_2$, $CO_2$, $N_2O$), anaesthetic gases (in connection with anaesthesia machines), the BIS (a parameter which measures the effects of anaesthesia on the patient) or neuromuscular transmission (to measure the patient's response to nerve stimulation and regional block). Other monitoring needs vary depending on the complexity of the operation. PO monitors, as opposed to CC monitors, are not yet frequently networked with other care areas of the hospital.

(17) CC monitors are used in areas of a hospital where a high level of patient care is required such as intensive care units (ICU), neo-natal intensive care units (NICU), coronary care units (CCU), and emergency rooms (ER). This type of monitor generally measures a large number of parameters also measured by PO monitor, such as ECG (electrocardiogram), SpO2 (haemoglobin oxygen saturation), NH3P (non-invasive blood pressure), IBP (invasive blood pressure), temperature, $CO_2$ or cardiac output, but not the effects of anaesthesia on patients. CC monitors are often networked and linked to a central station where the data can be processed or stored and where the patient's vital signs can be observed at a remote location.

(18) GW monitors are less complex than PO and CC monitors, and only measure basic parameters such as NIBP, SpO2, temperature and ECG. This type of monitor is used for sub-acute activities such as general medical and surgical wards or obstetrics. GW monitors are configured rather than modular and can be linked to a central station or used as stand- alone units. Not all patients in the general ward area need to be monitored and consequently monitors are moved from bedside to bedside according to patient's monitoring requirements; for this they need to be physically easy to shift around the area.

(19) The market investigation has confirmed the product market segmentation submitted by the notifying party regarding patient monitors. The arguments that support this product market definition come from both the demand side and the supply side. Since the GW market is not an affected market (Instrumentarium is not active in this market), the analysis focuses only on the PO and CC markets.

(i) *Demand side considerations*

(20) First, their technical requirements are so different that, even if PO monitors can sometimes be used in the CC area, the substitution of PO for CC monitors is not possible in the vast majority of cases. These technical requirements refer not only to the specific types of parameters to be measured in each care area, but also to the network capabilities and physical characteristics needed ([7]).

([7]) Form CO pages 40, 41 and 42.

(21) With regard to the substitutability of PO monitors for CC monitors or vice-versa, the investigation has shown that each type of monitor is exclusively used in its intended care area, because of the initial specifications and parameters that are required at the time of purchase ([8]).

(22) Furthermore, as was emphasised by the notifying party, these differences in technical requirements are confirmed by the differences in prices that can be observed between the three segments ([9]).

(23) The purchasing decision also differs from one segment to another. The market investigation has shown that, for PO monitors, the decision about the monitor's technical specifications is mainly taken by the anaesthesiologist, whereas for CC monitors the clinicians of the relevant departments (namely ICU, NICU or CCU) have a great influence in the final decision ([10]). Moreover, for the acquisition of equipment by either hospitals or the public authorities in charge of the hospitals' procurement, separate tenders are usually organised for each care area, with particular specifications for each case ([11]).

(24) Moreover, it is a common practice in the industry (in studies carried out by independent consultants and the manufacturers themselves), to segment the general patient monitor market according to the care area involved.

(25) There are also important differences with regard to the type of software used. The software defines the settings of the monitors (alarms, algorithm performance or report configurations), that are directly linked to the intended use of the monitor, that is, to the care area. Since patients usually spend only a few hours in the OR area while they can spent days or even weeks in the CC area, this leads to different software configurations and to different needs in the time scale for printed reports.

(ii) *Supply side considerations*

(26) The notifying party submits that from the manufacturing point of view, switching production from one type of monitor to another is easy and can be achieved at a low cost. Different care area monitors can be manufactured on the same production platforms. Moreover, the monitor's manufacturers are mainly assemblers and source a large proportion of their inputs from third parties, which are component manufacturers. Co-operation with third parties can therefore enhance this flexibility in production ([12]).

(27) However, each supplier manufactures models that can be specifically designed for the PO or the CC area. Some players, including the main suppliers, are more active only in some care areas than in others (for example, before the acquisition of Spacelabs, Instrumentarium was only marginally present in CC monitors and is not active, like Siemens, in GW monitors, whereas GE and Philips are present in the three segments) ([13]). This is particularly true as regards small suppliers, which tend to focus more on CC areas, where technological barriers to enter the market remain generally lower than in the perioperative area.

(28) The market investigation has also shown that the R&D efforts of monitor suppliers are focused on the specific applications of their products and differ substantially depending on whether their products are designed for the perioperative or the critical care areas. In that respect, the various suppliers have indicated that the latest innovative developments have indeed been different for perioperative and critical care monitors. Amongst the most important technological developments specific to the perioperative area, suppliers mention, *inter alia*, the introduction of software specifically adapted to the operating room, networked monitoring for the operating room, integrated anaesthesia record keeper and specific ergonomics. As regards parameters, the various suppliers also mention important developments, varying according to the

([8]) Customers in each country were asked whether they would sometimes use perioperative monitors in the critical care area and vice versa. A vast majority of respondents indicated that this would not be the case (France, 81 %; Spain: 86 %; the United Kingdom: 62 %; Sweden: 69 %; Italy: 58 %).

([9]) Form CO, p. 43.

([10]) For the five bigger markets at national level, the market investigation shows that: for PO monitors, the proposal to purchase a given type of monitor is made in most of the cases by the anaesthesiologist (France 95 %, Germany 97 %, Italy 94 %, Spain 100 % and the United Kingdom 72 %) and only in a few cases by other medical departments; for CC monitors the influence is exerted by the relevant medical departments.

([11]) The market investigation results regarding the last tender organised by the respondents show that the percentage of tenders organised exclusively for PO or CC monitors is France 65 %, Germany 69 %, Italy 73 %, Spain 70 % and the United Kingdom 67 %.

([12]) Form CO, p. 47.

([13]) Form CO, p. 44.

market concerned. For instance, the latest innovations for PO monitors concern elaborate electroencephalogram and neuro-muscular measurements, in order to measure the effects of anaesthesia. For CC monitors, technological developments have focused, inter alia, on the introduction of non-invasive parameters aimed at measuring cardiac output and blood pressure. All these elements indicate that, given the costs of R&D and the time required to develop new products adapted to the care area for which they are used, there are important technological barriers to recustomizing CC monitors as PO monitors, and vice versa.

(29) The market shares of the parties and their competitors in each care area are also quite different, suggesting the same market segmentation. Were PO and CC to be considered as belonging to the same relevant product market, similar market shares for each segment would be expected, which is not the case.

(30) These facts constitute a clear indication of the difficulties in switching from one segment to the others. In this respect, the notifying party acknowledges ([14]): that 'The costs of switching between the different care areas is foremost determined by the costs and time of developing a suitable product and, even more importantly, of building up a reputation as a reliable supplier within a certain care area.' The market investigation has indeed shown that, among the various reasons both to change or not to change of supplier, reputation is a key factor in the decision ([15]). Consequently, a given company not present in one of the markets is unlikely to obtain a reliable reputation for the provision of these services, at least in the short term. These switching difficulties suggest that the three defined care areas are distinct product markets.

(31) In the light of the above, PO, CC and general ward monitors constitute separate relevant product markets.

([14]) Form CO, p. 43.

([15]) The results from the market investigation (questionnaire sent to patient monitors customers on 7 May 2003, questions 19 and 21) indicate that, for example, for PO monitors the more important reasons not to change of supplier are: in France and Spain the proven track record and better technology of the current supplier, in the United Kingdom the proven track record and the avoidance of switching cost, and in Germany that PO and CC are of the same brand. The more important reasons to change are: in France and Spain the proven track record and better technology of the new supplier, in the United Kingdom the better technology, the connection capabilities and the proven track record and in Germany the better technology and the electronic interoperability.

2. ***Anaesthesia equipment***

(32) Anaesthesia equipment is used to deliver anaesthetic gases to patients during operations, to supply them with oxygen during the operation, to provide artificial respiration if necessary and to monitor the patient during the entire period of narcosis.

(33) In case COMP/M.2861–Siemens/Drägerwerk/JV ([16]) the Commission concluded that anaesthesia equipment as a whole constitutes a relevant product market, the key arguments being the high differentiation of the product and the particular specifications that the equipment must meet. The Commission's market investigation did not reveal any new evidence indicating that this conclusion is not valid any more.

3. ***Clinical Information Systems (CIS)***

(34) According to the notifying party, IT solutions for medical equipment are commonly divided between hospital information systems (HIS), clinical information systems (CIS) and picture archiving communication systems (PACS). CIS is used for automating patient records, patient medical readings and other clinical information. The parties' activities overlap in CIS. GE is active in the critical care and perioperative areas with its 'Centricity Critical Care' and 'Centricity Perioperative' products. Instrumentarium is present in the same care areas through its 'Deio' and 'Clinisoft' products. In addition to CIS, GE is also active in HIS and PACS. From a demand-side perspective, hospitals which require a CIS product to satisfy their needs for automated recording, for electronic exchange of data between different devices and automated patient records cannot turn to substitute products. Likewise, from a supply-side perspective, CIS has distinct characteristics which differentiate it from other types of software, notably its ability to exchange medical electronic data in real time at the point of care. Accordingly, for the purpose of this Decision and taking into account the fact that it is still an emerging market, the Commission considers that there are strong indications pointing towards a distinct CIS product market.

4. ***Mobile C-arms***

**General description of the product**

(35) C-arms are mobile fluoroscopic X-ray machines used in hospitals and clinics to provide continuous viewing in

([16]) OJ L 311, 14.12.2002, p. 12.

real-time during diagnostic, surgical and interventional procedures. In comparison to general radiography where a static X-ray or an X-ray picture is provided, fluoroscopy offers a dynamic X-ray, or X-ray movie, used for the imaging of the flow of contrast media in a variety of body parts and organs.

(36) A C-arm consists of a piece of metal forged in the shape of letter 'C' with an X-ray tube at one end of the 'C' and an image intensifier attached to the other. The image intensifier enhances the picture generated by the X-ray which would otherwise not be clearly visible for the human eye ([17]).

(37) C-arms can be either large C-arm systems which are mounted on the ceiling ('fixed C-arm systems') and form a fixed part of a radiology and fluoroscopic room of a hospital, or mobile C-arms, which are attached to a wheeled device that allows the machine to be brought to the patient during operations and medical procedures ([18]). Mobile C-arms are used in the operating room as well as outside the perioperative units in the coronary care unit or the intensive care unit. According to the notifying party ([19]), fixed fluoroscopic systems account for more than 80 % and mobile C-arms less than 20 % of the fluoroscopic X-ray market. It is understood that the price of a fixed system can be significantly higher than that of a mobile C-arm. The notifying party takes the view that even if fixed systems are technically capable of offering an alternative to some, especially high-end, C-arms and provide to an extent a competitive constraint to mobile systems, it is not necessary to determine whether C-arms are part of a larger market for fluoroscopic X-ray devices, as no competition concern arise in a narrower defined mobile C-arms market. Both GE and Instrumentarium manufacture mobile C-arms but Instrumentarium does not manufacture fixed C-arm systems.

(38) It is also stated by the notifying party that most mobile C-arms on the market are full-size C-arms but that there are also mini C-arms. Mini C-arms also provide real-time X-ray imaging but their use is limited to basic orthopaedic procedures on extremities, namely arms and legs. The size of the mini C-arms market is significantly smaller than that of full-size C-arms. According to a report by the industry consultancy Frost & Sullivan, 'US Fluoroscopy and Mobile C-arms Markets' ([20]), in 2001 the European market for full-size C-arms comprised 941 unit shipments and produced revenues of USD 63 000 000 whereas the market for mini C-arms comprised of 49 unit shipments and USD 3 000 000 in revenues ([21]). In comparison, the European mini C-arms market is about 10 % of the size of the US market ([22]). Whereas both GE and Instrumentarium manufacture full-size C-arms, Instrumentarium does not manufacture mini C-arms.

**Possible distinction between different types of mobile C-arms**

(39) The notifying party submits that even if all full-size C-arms perform the same basic function in providing real-time images of the part of the body under examination, a possible distinction may be drawn between mobile C-arms by distinguishing the medical application for which the equipment is utilised, given the various degree of complexity of the treatment, the necessary technical properties and the price of the C-arm.

(40) Consequently, the notifying party suggests a possible segmentation of the mobile C-arms market into: (i) low-end C-arms, (ii) vascular C-arms and (iii) cardiac C-arms. The notifying party takes, however, the view that regardless of the market definition adopted, namely the overall full-size mobile C-arms or the segmentation by application, the transaction would not raise competition concerns. Both parties are active in vascular and low-end C-arms but only GE is active in cardiac C-arms.

(41) Medical applications, for which all full-size C-arms, including low-end C-arms, can be utilised, include all orthopaedic examinations (extremities, hip and spine), general fluoroscopy (catheter placements, gastro-intestinal procedures, urology, lithotripsy), pain management procedures, laparoscopy (abdominal imaging), endoscopy, ear nose and throat procedures, pacemaker insertion and speech pathology. The applications of a lower tier of C-arms (low-end C-arms) therefore cover in essence orthopaedic applications and simpler surgical procedures.

([17]) Frost & Sullivan US Fluoroscopy and Mobile C-arms Markets 2002, 2-1, 2-2.
([18]) Form CO, p. 62, footnote 77.
([19]) Form CO, p. 62, footnote 78.
([20]) Frost & Sullivan US Fluoroscopy and Mobile C-arms Markets 2002, Chapter 6 World Mobile C-arm Market, 6-1.
([21]) Frost & Sullivan US Fluoroscopy and Mobile C-arms Markets 2002, Chapter 6 World Mobile C-arm Market, 6-2.
([22]) Frost & Sullivan US Fluoroscopy and Mobile C-arms Markets 2002, Chapter 6 World Mobile C-arm Market, 6-1.

(42) The middle tier of C-arms (vascular C-arms) perform additionally basic minimally invasive and diagnostic vascular procedures (procedures involving blood vessels) including phlebography, arteriography and lymphography.

(43) The high tier of C-arms (cardiac C-arms) consists of equipment which, in addition to the functions also carried out by low-end and vascular C-arms, can in most cases ([23]) also be used for advanced vascular procedures and vascular surgery, including coronary angiography, the placement of abdominal aortic aneurysm stents as well as neurosurgery and neurovascular examinations.

(44) The Commission's market investigation has largely confirmed the above product market segmentation ([24]). A number of market participants ([25]) consider, however, that a market definition based on a distinction of C-arms by their application is not appropriate. They suggest, for example, a distinction between high and low-end mobile C-arms or alternatively an overall market for mobile C-arms. The Commission concludes, however, that the assessment would not change significantly even if another segmentation or a wider market for mobile C-arms be applied. The arguments put forward by the notifying party for a further segmentation of the mobile C-arms market, which were largely confirmed by the market investigation, are, however, assessed in more detail below.

(i) *Demand side considerations*

(45) According to the notifying party, as regards the technical differences, low-end C-arms, which represents some 500 units annually sold in the EEA, typically provide for a low generator power (1,4 to 5 kW ([26])), a stationary anode X-ray tube, basic imaging features, minimal image processing and image storage capacities and limited image display capacity. It is stated that low-end C-arms are limited in their use for vascular procedures by their inadequate power to provide imaging for the time required for the procedure. The price for a low-end C-arm is typically below EUR 65 000 ([27]). In this range, GE manufactures the OEC 7 700 models and Instrumentarium the Ziehm Compact and the Ziehm 8 000 (previously Exposcop 8 000 Compact and Exposcop 8 000) ([28]).

(46) Middle-tier vascular C-arms, which, according to the notifying party, also represent some 500 units annually sold in the EEA, also have lower generator power (1,3 to 5 kW ([29])) than cardiac C-arms and typically use a stationary anode X-ray tube. This is said to limit the use of vascular C-arms to more basic vascular procedures (such as orthopaedic and gastro-intestine examinations) and provides only for a lower penetration capability. The price for a vascular C-arm varies between EUR 60 000 and EUR 100 000 ([30]). GE manufactures the OEC Flexiview 8 800 and Instrumentarium the Ziehm Vision, Ziehm Vista Vascular and Ziehm Vista Endo (previously Exposcop 8 000 Endo) ([31]).

(47) The notifying party submits that high tier cardiac C-arms, which represent approximate sales of 300 units annually in the EEA, feature a rotating anode X-ray tube enhancing the capacity of the machine, high generator power (5 to 20 kW ([32])), high resolution image processing and digital image storage capacity. Rotating anode allows for a continuous viewing during a cardiac procedure. The price for a cardiac C-arm is said to range between EUR 80 000 and EUR 200 000 ([33]). GE manufactures the OEC 9 800 models which can be upgraded for cardiac functions. […]* ([34]).

(48) With regard to the substitutability between the different types of C-arms, the market investigation ([35]) largely showed that, from a hospital's point of view, there are differences between the various types of C-arms, although from technical and medical point of view the cut-off point is not always clear since the product lines to a certain extent provide for a continuum. The Commission also observes that the price of the equipment and the required service level from the supplier vary according to the complexity of the C-arm ([36]).

(49) It must also be noted that despite technical differences between the proposed segments, first, there is a

([23]) The use of C-arms for cardiac applications is not permitted in national legislation in France and Germany.
([24]) Replies to the Commission's Article 11 letter to hospitals (mobile C-arms customers) of 11 March 2003.
([25]) Replies to the Commission's Article 11 letter to competitors of 11 March 2003.
([26]) Annex 6.8 to the Form CO.
([27]) Annex 6.8 to the Form CO.
([28]) Form CO, p. 64.
([29]) Annex 6.8 to the Form CO.
([30]) Annex 6.8 to the Form CO.
([31]) Form CO, p. 64.
([32]) Annex 6.8 to the Form CO.
([33]) Annex 6.8 to the Form CO.
([34]) Form CO, p. 63.
([35]) Replies to the Commission's Article 11 letter to hospitals (mobile C-arms customers) of 11 March 2003.
([36]) Annex 6.16 to the Form CO.

possibility for one-way substitution in the utilisation of technically more advanced C-arms (cardiac and vascular C-arms) to perform procedures typically appropriate for the application of the low-end C-arms. This is, however, not perceived by the surveyed hospitals as a factor influencing the preferred choice of a mobile C-arm, owing to other related factors such as the difference in price ([37]). Secondly, according to a number of market participants it is possible to upgrade a low-end C-arm to a vascular C-arm or a vascular C-arm to a cardiac C-arm. Such an upgrade would include, *inter alia*, installing necessary software options. The additional cost for upgrading a low-end C-arm to a vascular C-arm was, in general, estimated as EUR 10 000 to 20 000 and the cost was estimated significantly higher for an upgrade of a vascular C-arm to a cardiac C-arm. The latter would also require improvements to other specifications of the C-arm ([38]).

(50) Frost & Sullivan does not further segment the market in its Reports on fluoroscopy and C-arms markets but makes a distinction between mobile full-size and mini C-arms and generally acknowledges, in respect of smaller suppliers of C-arms on the European market, that these mainly provide more general C-arms instead of C-arms used for a particular applications, like vascular surgery ([39]). The Commission's market investigation indicates that, in general, the smaller suppliers tend to concentrate either on the low-end C-arms or cardiac/vascular C-arms due to more limited resources available for R&D, manufacturing and marketing of a full range of mobile C-arms ([40]).

(ii) *Supply side considerations*

(51) The notifying party submits that from the suppliers point of view, there are credible rivals in the market like Philips and Siemens that have extensive product offerings and in-depth geographic coverage, in addition to other competitors that successfully compete with the large competitors in their chosen product and geographic areas. It is also stated that there are no significant barriers to expanding production, distribution or after-sales service and that any supplier of C-arms could easily respond to an increase in demand. An increase in production would entail procurement of more materials and acquiring more personnel. The notifying party takes the view that although patents are common in the C-arms business, none of the competitors possess unique technology and that they source a large proportion of their inputs from third parties which are component manufacturers.

(52) The market investigation has confirmed that, of the major players on the market (GE, Instrumentarium, Siemens and Philips), all, apart from Instrumentarium, have a strong presence in all three proposed segments of mobile C-arms ([41]). At the EEA level, GE is the clear market leader in cardiac C-arms, Siemens the market leader in vascular C-arms and GE again in low-end C-arms. The market shares of the parties and their competitors in each segment vary from segment to segment which is considered as an indication of the segmentation of the market. Were the C-arms for low-end, vascular and cardiac applications to belong to an overall product market, such divergence in market shares in different segments would not be expected. The divergence in market shares in different segments is indicated in the table below (year 2002).

*Table 1*

**Market shares (in value) in the EEA in 2002**

| 2002 | Cardiac | Vascular | Low-end | Total |
|---|---|---|---|---|
| GE | [50-60]* % | [20-30]* % | [20-30]* % | [30-40]* % |
| Instrumentarium | [0-10]* % | [20-30]* % | [20-30]* % | [10-20]* % |
| Combined | [50-60]* % | [40-50]* % | [40-50]* % | [40-50]* % |
| Philips | [20-30]* % | [20-30]* % | [20-30]* % | [20-30]* % |
| Siemens | [20-30]* % | [20-30]* % | [20-30]* % | [20-30]* % |
| Others | [0-10]* % | [0-10]* % | [0-10]* % | [0-10]* % |

*Source*: the notifying party.

(53) Furthermore, the Commission considers that technical differences related to the level of complexity of the medical procedures and the necessary after-service obligations, render the entry into the cardiac C-arms segment considerably difficult. […]*

([37]) Replies to the Commission's Article 11 letter to hospitals (mobile C-arms customers) of 11 March 2003.

([38]) Replies to the Commission's Article 11 letter to hospitals (mobile C-arms customers) of 11 March 2003.

([39]) Frost & Sullivan, US Fluoroscopy and Mobile C-arms Markets, Chapter 6 World Mobile C-arm Market (2002), 6-1.

([40]) Replies to the Commission's Article 11 letter to competitors of 11 March 2003.

([41]) Replies to the Commission's Article 11 letter to competitors of 8 May 2003.

(54) Therefore, on the basis of an overall assessment of the information gathered from the market investigation it seems that the conditions of competition appear sufficiently different to indicate that these three segments of mobile C-arms constitute separate relevant product markets. However, the question of the precise product market definition can be left open, since, even if another segmentation of the C-arms market or a wider product market comprising all mobile C-arms were appropriate, as suggested by the notifying party, the notified concentration would not lead to the creation or strengthening of a dominant position as a result of which effective competition would be significantly impeded in the common market or in a substantial part of it.

5. ***Mammography devices***

**General description of the product**

(55) Mammography is a specific type of X-ray imaging device exclusively used for medical examination of the female breast: X-rays produce an image of internal breast tissue with the purpose of detecting malignant growths. The device can be used both for screening, namely early detection of any malignant growth, and for diagnostic or interventional purposes. Breast screening campaigns aim at detecting any malignant growth in a large fraction of the female population at an early stage.

(56) The image of the breast made by X-ray can be recorded on a film, using an X-ray cassette, or digitally recorded and displayed through a digital receptor (plate) and the utilisation of a computer. This factor distinguishes the two types of mammography equipment: analogue mammography and digital mammography.

(57) According to a Frost & Sullivan report on World X-Ray Mammography Market ([42]), in 2001, the European market for analogue mammography comprised of 1 277 unit shipments and produced revenues of USD 106 800 000 whereas the market for digital mammography amounted to 27 unit shipments and USD 10 400 000 in revenues.

**Distinction between analogue and digital mammography**

(58) Analogue technology has been available for some decades and constitutes the most established technology in the market. Digital technology has recently been introduced into the market and its growth is expected to be rapid in the years to come along with new developments in digital detectors with higher spatial resolution (smaller pixel size), contrast resolution, low-dose X-rays and 3D imaging.

(59) Both parties are active in analogue mammography devices but only GE currently manufactures digital mammography devices. Instrumentarium does not currently manufacture full-field digital mammography devices […]*.

(60) The notifying party submits that there are factors such as the significant price difference between analogue and digital devices that suggest distinct product markets for the two categories of mammography devices. Nevertheless, they propose that the relevant product market definition be left open as the market is in transition.

(61) The market investigation has confirmed that there are substantial price differences between analogue and digital mammography devices: the average price for an analogue mammography device is around EUR 50 000 whereas it is around EUR 300 000 for a digital device. Currently digital devices form a small percentage of the overall sales of mammography device units in the EEA. In line with these figures, the overwhelming majority of customers responding to the Commission's market investigation ([43]) indicated that they would not switch from an analogue to a digital mammography device if the price of the former were to rise permanently by 5 to 10 %.

(62) Moreover, there are significant differences in technical performance (image quality and storage) between the two types of mammography devices. Digital mammography devices are expected to offer better contrast resolution and other image characteristics that will improve the capability to detect cancer at an early stage and to reduce errors in detection (so called false-positive). Improvements offered by the digital technology relate also to lower radiation doses and general functionality of digital technology, such as digital transmission and storage of imaging. Furthermore, it is expected that digital technology will enhance new applications, such as three dimension (tomosynthesis) or a combination with ultrasound ([44]).

(63) The notifying party states that digital mammography is more efficient than analogue in that it captures up to

([42]) Frost & Sullivan, World X-Ray Mammography Market, 2001, Chapter 3.

([43]) Replies to questionnaire to customers of 11 March 2003.

([44]) Competitors' reply to the Commission's questionnaires on R&D in Mammography dated 28 May 2003.

20 % more of the original X-ray signal and increases productivity, namely the number of examinations per day, by approximately 40 to 50 % ([45]). The Commission observes, however, that there has been some uncertainty as to the sharpness of the image resolution of digital mammography devices and the size of the X-rayed area in comparison to those offered by analogue equipment. Digital mammography devices have so far not been accepted in the national breast screening programs in some EEA countries, because screening requires both a precise and efficient device in terms of patient throughput. However, it is merely a question of time before these technical limitations are overcome.

(64) Although analogue and digital mammography devices share some common characteristics and can be manufactured on the same product line, there is not a sufficient degree of supply-side substitutability between the two segments. There are substantial differences among the two kinds of devices. The development of digital mammography devices requires, on the part of the manufacturer, significant investments ([46]) in research and development to address specific issues related to digital devices, namely the conversion of X-ray signal into digital signal with respect to image resolution and speed. This requires innovation in the technology for full-field radiation detector as well as digital processing of the image for the visualisation of small structures inside dense breast tissues. As a result of such developments in digital mammography, GE holds more than […]* patents ([47]) in this field. As a halfway solution between analogue and fully digital devices, some companies ([48]) have developed solutions to upgrade analogue devices to produce digital images.

(65) All these factors indicate a product market distinction between analogue mammography and digital mammography.

B. THE RELEVANT GEOGRAPHIC MARKETS

(66) The notifying party takes the view that factors such as a common legal framework for a wide range of medical devices ([49]), significant level of supply substitution, centrally organised production, minimal transport costs and the non-existence of insurmountable barriers to entry in terms of setting up a distribution network, suggest that the geographic markets for patient monitors, C-arms and mammography devices are increasingly becoming EEA-wide.

(67) The Commission's market investigation has shown, however, that the markets for patient monitors, C-arms and mammography devices are national in scope.

1. ***Patient monitors***

(68) Since the GW market is not affected (only GE is active in this market) the relevant geographic analysis is focused only on the PO and CC markets.

**Presence in the individual Member States**

(69) The market penetration of the major monitoring manufacturers differs among the Member States, in particular as regards perioperative monitors.

(70) For example, GE has no reported sales of such products in countries such as […]*, […]*, and […]*, while being present in neighbouring countries (Spain: [10 to 20 %]*; Denmark: [10 to 20 %]* and Germany [0 to 10 %]*) Similarly, Instrumentarium, although present on all markets, has higher market shares in Spain ([60 to 70 %]*) than in France ([40 to 50 %]*) or Portugal ([30 to 40 %]*). The same applies for other manufacturers: Siemens only has a [5 to 10 %]* market share in the United Kingdom, while having [20 to 25 %]* in Ireland, and [5 to 10 %]* in Spain compared to [50 to 55 %]* in Portugal. Similarly, Philips has a [20 to 25 %]* market share in France, but only [5 to 10 %]* in Spain and the United Kingdom.

(71) These different market structures, even between neighbouring countries, suggest that the conditions of competition vary significantly amongst Member States. In particular, there is no evidence that a grouping of Member States can be considered as a distinct geographic market. These discrepancies in market shares across the Member States are also present in the market for CC monitors to a similar extent.

**Price differences in the Member States**

(72) The notifying party submits that the differences in their list prices are due to the different discounting schemes in each country: where list prices are relatively higher in one Member State, this is offset by higher levels of discount.

([45]) Form CO, p. 93.
([46]) According to Frost & Sullivan, GE has spent over USD 100 000 000 over 10 years, while Siemens USD 50 000 000, and Fischer Imaging almost USD 30 000 000.
([47]) Philip' reply to the Commission's questionnaire dated 28 May 2003 and dealing with R&D in Mammography, p. 3.
([48]) For instance: Instrumentarium, Siemens and Philips.
([49]) Medical Devices Directive 93/42/EC of 14 June 1993.

(73) However, the Commission found that there are differences in transaction prices. In particular, when analysing the information provided by the notifying party ([50]) even the distinct discounts applied in each country do not offset these price differences. The table below, where GE's list prices and average discounts are summarised for some Member States, shows that there are countries with similar list prices but with different average discounts, which indicates that final selling prices are different. For example, list prices for DASH 2 000 in […]* are higher than in […]*, while the average discount is lower, which leads to a higher final price. The same pattern can be found for other products and countries, supporting the conclusion that final selling prices do vary across the Member States.

*Table 2*

| | Average list prices | | | | | Average discount | |
|---|---|---|---|---|---|---|---|
| | Models | | | | | | |
| Country | Dash 2 000 | Dash 3 000 | Dash 4 000 | Solar 8 000 | Solar 9 500 | Dash models | Solar models |
| Austria | [3-8]* | [6-11]* | [8-13]* | [5-10]* | [13-18]* | […]* | […]* |
| Belgium | [3-8]* | [6-11]* | [8-13]* | [5-10]* | [14-19]* | […]* | […]* |
| France | — | [7-12]* | [9-14]* | — | — | […]* | […]* |
| Germany | [3-8]* | [6-11]* | [8-13]* | [5-10]* | [13-18]* | […]* | […]* |
| Italy | [3-8]* | [5-10]* | [7-12]* | [5-10]* | [13-18]* | […]* | […]* |
| Ireland | [4-9]* | [7-12]* | [1-15]* | [6-11]* | [15-20]* | […]* | […]* |
| Netherlands | [3-8]* | [6-11]* | [8-13]* | [5-10]* | [14-19]* | […]* | […]* |
| Portugal | [2-7]* | [5-10]* | — | [4-9]* | [10-15]* | […]* | […]* |
| Spain | [2-7]* | [5-10]* | — | [4-9]* | [10-15]* | […]* | […]* |
| Sweden | [3-8]* | [6-11]* | [9-14]* | [5-10]* | [15-20]* | […]* | […]* |
| United Kingdom | [4-9]* | [7-12]* | [10-15]* | [6-11]* | [15-20]* | […]* | […]* |

*Source*: the notifying party. (*) Solar 8000.

(74) These final customer price differences are also confirmed by independent studies ([51]), where average prices are calculated for multi-parameter patient monitoring systems and for all brands in Europe. The results show substantial price differences ranging from 16 % to 32 % between countries such as for example France or Spain and the United Kingdom.

**Distribution and after-sales service**

(75) As stated above in the product market section, aspects such as after-sales service, maintenance and training are key factors in taking the final purchasing decision. The notifying party has also pointed out the importance of this issue stating that local distribution operations, including the provision of after-sales services, appears necessary to be an effective competitor in the country concerned. This need of services has been confirmed by the Commission market investigation, where, together with specification and quality, factors such as after-sales service, continuous maintenance, training and the capacity of providing maintenance and service over the whole life-cycle of the product are the more appreciated by the customers when taking the final purchasing decision ([52]).

([50]) Annex 6.16 to the Form CO.

([51]) Frost & Sullivan report on the European Anaesthesia and Respiratory Equipment, 2001 (3981-56), pages 5 to 18, 6 to 17, 7 to 17, 8 to 17, 9 to 17, 10 to 15, 11 to 17.

([52]) In the market investigation the customers in the various countries were asked to assess the importance of 20 different factors when choosing a patient monitor's supplier. In Germany and Spain, the ability of the supplier to provide maintenance and service over the life cycle of the product was the second most important factor for respondents. In France and the United Kingdom, this was mentioned as the third most important factor, and in Sweden the fourth.

(76) Furthermore, most small competitors in critical care monitoring are not present in all the Member States, which is a clear indication of the difficulties in obtaining a reliable after-sales service network even through third parties. By contrast, the main suppliers are present in, at least, all the large markets ([53]). Their distribution structure may however vary depending on the countries. For instance Instrumentarium sells direct to final customers in countries such as […]*, while selling on a national basis through distributors in neighbouring countries. In that respect, the Commission has found no evidence that any group or cluster of Member States could form a distinct geographic market.

(77) In light of these factors, the Commission has reached the conclusion that each Member State constitutes a separate relevant geographic market.

2. ***Anaesthesia equipment***

(78) In Case COMP/M.2861–Siemens/Drägerwerk/JV the Commission concluded that the geographic market anaesthesia equipment was national. Key arguments supporting this view were the fact that the parties had very different market shares in the individual EEA countries and that they had different competitors in them, that most competitors operated in only one or two Member States, that a local distribution and servicing structure was of crucial importance to market success and that anaesthesia equipment was distributed predominantly through invitations to tender, with customer preferences playing an important role in the final purchasing decision.

3. ***Clinical Information Systems (CIS)***

(79) As explained above, CIS are mainly IT solutions used as accessories to medical equipment to enhance its capabilities. Indeed, CIS is a complicated IT system which requires installation by experts. Installation can take up to 18 months and is tailor-made to the hospital's needs. Training is also offered to the hospital staff by the installer of the CIS system. As such, a dedicated distribution, installation, maintenance and service network operating on a national basis is of great importance. In this context, the same arguments supporting the national market definition for PO and CC monitors suggest that the relevant geographic market for CIS is also national. In particular, it should also be noted that the sales of CIS go through the same distribution channels as the ones for patient monitors, on a national basis, and that the penetration rates differ across the various EEA member states.

4. ***Mobile C-arms***

**Presence in the individual Member States**

(80) According to the information submitted by the notifying party, the parties' market position and that of competitors varies significantly in different Member States ([54]).

(81) For example, in low-end C-arms, on the basis of 2002 figures, Instrumentarium has a strong market position in Finland ([50 to 60 %]*), Denmark ([30 to 40 %]*), Germany ([30 to 40 %]*) and Belgium ([30 to 40 %]*), while in some other Member States the markets shares are much lower. For example, in Italy ([10 to 20 %]*), Norway ([10 to 20 %]*) and France ([0 to 10 %]*) its position is much weaker and in some Member States it did not have sales at all ([…]*) in 2002. These discrepancies in market shares are present for the main competitors in both low-end and vascular C-arms. Moreover, a number of smaller competitors are present in some Member States, in particular, Italy, Portugal, Spain and Greece. ([55]) The following table shows some of these differences for the parties and their main competitors.

([53]) See also T for G, 2000, 3.3. p. 131.

([54]) Annex 6.9 to the Form CO. The total size figures are based on the parties' best estimates initially derived from publicly available data complied by COCIR. Companies not providing information to COCIR include GMM, SIMAD, Sia, Eurocolumbus, Technix, Metaltronica, Gilardoni, and Villa, mainly active in Italy, Greece, Spain, Portugal. COCIR provides information on C-arms sales in Belgium, France, Italy, Germany, the Netherlands, the United Kingdom, Spain and Sweden. The parties do not have COCIR information for Finland, Norway, Ireland, Greece, Portugal, Denmark and Austria.

([55]) Frost & Sullivan, US Fluoroscopy and Mobile C-arms Markets, Chapter 6 World Mobile C-arm Market (2002), 6-1 considers these as 'smaller local companies and the value end of the market that are considered to be assemblers of full-size C-arms and not manufacturers. They procure parts such as X-ray tubes and image intensifiers from other manufacturers and assemble a general mobile C-arm as opposed to a user focused C-arms used for specific purposes such as vascular surgery'.

*Table 3*

**Low-end C-arms: market shares 2002**

| Company | High market shares | | Low market shares | |
|---|---|---|---|---|
| Instrumentarium | Finland | [50-60]* % | France | [0-10]* % |
| | Denmark | [30-40]* % | Niederlande | [0-10]* % |
| GE | Spain | [40-50]* % | United Kingdom | [0-10]* % |
| | France | [40-50]* % | Austria | [0-10]* % |
| Philips | Netherlands | [50-60]* % | Italy | [10-20]* % |
| | Sweden | [50-60]* % | Finland | [0-10]* % |
| Siemens | Austria | [40-50]* % | Italy | [0-10]* % |
| | Belgium | [30-40]* % | Spain | [0-10]* % |

*Source*: the notifying party.

*Table 4*

**Vascular C-arms: market shares 2002**

| Company | High market shares | | Low market shares | |
|---|---|---|---|---|
| Instrumentarium | Austria | [70-80]* % | France | [0-10]* % |
| | Finland | [40-50]* % | Spain | [0-10]* % |
| GE | Norway | [60-70]* % | Germany | [0-10]* % |
| | France | [50-60]* % | Finland | [0-10]* % |
| Philips | Finland | [50-60]* % | Denmark | [10-20]* % |
| | Belgium | [50-60]* % | France | [0-10]* % |
| Siemens | Denmark | [50-60]* % | Austria | [0-10]* % |
| | France | [30-40]* % | Belgium | [0-10]* % |

*Source*: the notifying party.

**Price differences in the Member States**

(82) The investigation has shown that there are significant price differences between the Member States, suggesting national markets. The prices referred to in recital 83 have been obtained from GE and are average net prices by country of direct sales for GE's mobile C-arms for a basic model for year 2002.

(83) For instance, as regards GE's product […]*, the price ranges from EUR […]* in Germany to EUR […]* in Norway (price difference of [15 to 20 %]*). When considering the basic configuration of the […]* ([56]), for example in Germany, the product is priced at EUR […]* and in comparison in Italy at EUR […]* and in Norway at EUR […]* (price difference up to [25 to 30 %]*). Similarly, significant differences in the price of […]* can be established from EUR […]* in Germany to EUR […]* in Italy and EUR […]* in Norway (price difference up to [40 to 45 %]*) ([57]).

([56]) […]*.

([57]) Annex 6.16 to Form CO. GE's average net price 2002 with most basic configurations.

**Distribution and after-sales service**

(84) The market investigation has confirmed that as regards vascular and low-end C-arms after-sales service, maintenance and training are important factors when taking a final purchasing decision. Third parties emphasise that local distribution operations, including the provision of after-sales services, is necessary for a supplier to be a credible supplier in the country concerned ([58]).

(85) In addition to product specifications and quality, after-sales service, continuous maintenance, training and the capacity of providing maintenance and service over the whole life-cycle of the product are considered as important when taking the final purchasing decision. As regards training of personnel, the market investigation has indicated that training is considered as an important element and the level required varies. The notifying party acknowledges that, for example, in Sweden a high level of training is required for in-house technicians ([59]).

(86) The results of the market investigation indicate that service is estimated to amount annually up to 10 % of the final price of the product but with appreciable variations between Member States ([60]). Therefore, it also constitutes a not insignificant part of the supplier's revenues. In Italy, where the cost to the customer of the servicing of GE C-arms appears the highest (up to [10 to 20 %]* per annum of the original equipment price), GE itself services [40 to 60 %]* of its C-arms. Instrumentarium's internal documents also indicate servicing constituting approximately [10 to 20 %]* of its diagnostic imaging sales in Europe and identify […]* as focus markets for its new strategy on service contract business ([61]). GE distributes direct in all EEA Member States, whereas Instrumentarium uses distributors in […]*.

(87) For the purposes of this Decision, therefore, each Member State constitutes a separate relevant geographic market.

([58]) Most hospitals' responses to Question 6 of the Commission's Article 11 letter of 23 to 27 May 2003 gave most weight to factors such as continuous maintenance, local customer support, and after-sales service in addition to specifications, quality and price.

([59]) Annex 6.16 to Form CO, p. 9.

([60]) Replies to the Commission's Article 11 letter to hospitals (mobile C-arms customers) of 11 March 2003. See also Annex 6.13 to Form CO.

([61]) Instrumentarium Diagnostic Imaging — Strategic plan 2002.

5. ***Mammography devices***

**Presence in the individual Member States**

(88) The Commission's market investigation has shown that the markets for mammography devices are national in scope, as several factors generally accepted as indicators of a national dimension of a geographic market definition are present.

(89) According to the figures submitted by the notifying party ([62]) and the market-shares calculation performed by the Commission, the relative market positions of GE and Instrumentarium vary significantly between different Member States. The market penetration of the other principal multinational competitors, such as Siemens, Philips, or Planmed and Hologic/Lorad, also varies according to the Member State.

(90) For example, in 2002, GE had a market share above [40 to 50 %]* in Belgium, Germany, Greece and Portugal but only [10 to 20 %]* in the Netherlands. Equally, Instrumentarium had a market share above [40 to 50 %]* in Finland and Norway, [10 to 20 %]* in Italy but only [0 to 10 %]* in Germany. Furthermore, GE did not have any sales in Denmark, Finland, Sweden and Norway, while Instrumentarium was either not present or had market shares below [0 to 10 %]* in Austria, Germany, Ireland, and Portugal.

(91) Similarly, the presence of the parties' competitors varies significantly from one Member State to another. Even though Siemens is generally represented throughout the EEA area, albeit with different levels of market presence in individual Member States, all the other competitors, such as Planmed, Hologic, Philips, Giotto and Metaltronica, operate in only a few Member States.

**Price differences in individual Member States**

(92) The Commission's market investigation has shown that purchases by private and public customers are made at local level and that manufacturers are able to apply different prices at national level.

(93) GE has national price lists for its products presenting substantial price differences in different

([62]) Annex 6.11 to Form CO.

Member States ([63]): GE's list prices are significantly higher, for instance, in […]* than in […]*, […]* and […]*. They are even lower in Spain. Instrumentarium has used EEA-wide price lists for the last years but applies differentiated discounts to its distributors depending on the country. These discounts vary from […* %] to almost […* %] ([64]).

**Regional or national distribution networks**

(94) The distribution strategy followed by each of the parties also varies from one country to another. GE and Instrumentarium sell direct to the final customers in certain countries while they rely on distributors in others. For instance, Instrumentarium sells [90 to 100 %]* of its mammography devices through distributors ([65]) in […]* but […]* (only [20 to 30 %]* of sales effected through distributors), […]* and […]* ([80 to 90]* % through distributors), […]* and […]*. These distributors are independent companies that operate in one given Member State or in a region within a Member State. This enhances the local characteristics of the markets for mammography devices.

(95) GE used to sell through distributors only in […]*. It ceased to sell through its […]* distributors in 2001 and acquired its Irish distributor early in 2003. Consequently, GE currently sells its mammography devices to final customers through its own distribution network.

**Distribution and after-sales service**

(96) The Commission's market investigation has showed that customer/supplier relationships are formed principally on a national basis. Successful sales and the degree of each mammography producer's penetration in a given national market depend quite decisively on the distribution activity and after-sales servicing staff being available and ready to provide assistance to hospitals and to private practitioners on an immediate basis. Training and maintenance services are generally provided by the manufacturers and are usually agreed as part of the purchase of the equipment ([66]).

(97) When it comes to purchasing decisions in hospitals or in private organisations and decisions on tender specifications, the familiarity and reputation of each manufacturer are of primary importance to decision-makers. The purchase decision is taken in most Member States by the hospital administration's commercial department or by private organisations in coordination with the appropriate medical staff familiar with the equipment, the radiologists. Specifications defined by doctors and their needs in terms of product specificity and application priorities are decisive factors in purchase decisions. This is the reason why manufacturers present their equipment at trade fairs and medical congresses and pursue customer contacts with practitioners.

(98) The results of the investigation confirm that customers require assistance and expert knowledge on the part of the supplier's distribution and servicing staff. In fact, customers consider it very important that manufacturers should be able to provide after-sales service and continuous maintenance over the life span of the equipment. Local distribution services are particularly necessary for customers of mammography devices, given the number of private practitioners and private clinics that operate at local level being among the customers of these devices.

(99) Furthermore, GE and Instrumentarium, as well other competitors, are not present in all Member States. This indicates that there are some difficulties in obtaining a reliable after-sales service network even through third parties. For example, GE is not active in […]*, […]*, […]* and […]*, while Instrumentarium is not present in […]* and […]*.

**Conclusion**

(100) In the light of the above elements supported by the Commission's market investigation, the geographic markets for mammography devices are considered to be national in scope.

([63]) See GE's answer to question 9 of the Article 11 letter dated 8 May 2003.

([64]) See Instrumentarium's answer to question 4 in the Commission's questionnaire dated 16 May 2003.

([65]) See Instrumentarium's answer to question 1 of the Article 11 letter dated 8 May 2003.

([66]) In the market investigation public and private customers were asked to assess the importance of 20 different factors when choosing a mammography devices supplier (Article 11 questionnaires). The more valued factors in each national market were: specifications, quality continuous maintenance, maintenance and service over the whole life-cycle of the product, after-sales service, price and training.

C. COMPATIBILITY OF THE CONCENTRATION WITH THE COMMON MARKET

A. ***Horizontal effects***

1. **Patient monitors**

1.1 *Perioperative patient monitors*

General market features

(101) External studies ([67]) provided by the notifying party underline that the perioperative monitoring market has been experiencing several changes in the various European countries in the last few years. The market has become a stable and mature market ([68]) in which pricing strategy, technological innovation and consolidation have become crucial factors.

(102) Perioperative patient monitors are differentiated products. The products offered by the various suppliers present different strengths and weaknesses depending on customers' preferences. This is also the case where hospitals meet their needs for these products through calls for tenders. Their product preferences find expression via detailed technical specifications and thus restrict the range of products that come into consideration. The Commission's enquiries have established in particular that, in most countries, the anaesthesiologist, who is the primary user of this equipment, plays an important role in making the choice of a perioperative patient monitor.

(103) Although they generally want to obtain lower prices, technical specifications required from hospitals therefore play a major role in their purchasing decisions. That is why hospitals award procurement contracts on the basis of the 'most economically advantageous' procedure that allows them to select products primarily on the basis of their quality and performance, rather than exclusively on the basis of a 'lowest price' offer. Furthermore, the technical specifications requested by customers have become more and more complex and demanding for manufacturers. Not only multiparameter monitors have now become standard practice within the perioperative area, but manufacturers have also added new features and capabilities to their monitors as a result of a demand for sophisticated measurements from hospitals and, in particular, anaesthesiologists ([69]). The latest innovative developments include new parameters to measure the depth of anaesthesia and the effects of anaesthetics on the brain, which are becoming more important for the users ([70]). Computer technology has also become an important feature of these products with the upgrading or development of new software specifically adapted to the operating room in order to enhance the quality of the anaesthesia record.

(104) Finally, the market has been going through a strong period of consolidation. According to Frost & Sullivan (F&S), 'a few market players are indeed in control of most of the market and the other players tend to divest and focus their resources on a country basis or they even tend to concentrate on other markets' ([71]). More generally, F&S observes that the European anaesthesia and respiratory equipment market (including the perioperative monitoring market) is a mature market, in which even a small gain in market share can be of important value ([72]).

Market shares

(105) According to the information provided by the notifying party in their Form CO, in the case of perioperative monitors, the concentration would result in the following market shares:

([67]) Frost & Sullivan (F&S), European Anaesthesia and Respiratory Equipment Markets Report, 2001, 3981-56; T for G market report: Monitors and Ventilators (December 2000).

([68]) T for G, page 10; F&S, 2001, p. 4-47.

([69]) F&S, page 4-41; T for G, p. 31.

([70]) See also T for G, p. 16.

([71]) F&S, p. 4-50.

([72]) F&S, p. 3 and 4 'The European anaesthesia and respiratory equipment market is going through a period of significant consolidation. Smaller players are leaving the market and focusing their resources on other sectors of healthcare. F&S also noticed a trend toward divesting, that is, some companies are focusing on a specific country. Finally, there has been a high degree of collaborations and alliances between companies. The major issue is to understand which are the companies that will take advantage of this situations. In a mature market, even a small gain in market share can be of important value, thus market consolidation represents a major challenge for all the market players'.

*Table 5*

**Perioperative patient monitors**

*(%)*

| 2002 | EEA | A | BE | DK | DE | FI | FR | GR | UK | IRL | IT | NL | PT | ES | SW | NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GE | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [10-20] | [0-10]* | [0-10]* | [0-10]* | [10-20] | [0-10]* | [0-10]* |
| Instrumentarium | [40-50] | [50-60] | [30-40] | [20-30] | [30-40] | [80-90] | [30-40] | [20-30] | [60-70] | [30-40] | [40-50] | [30-40] | [20-30] | [50-60] | [40-50] | [0-10]* |
| Combined | [40-50] | [50-60] | [30-40] | [20-30] | [30-40]* | [80-90] | [30-40] | [20-30] | [70-80] | [40-50] | [40-50] | [40-50] | [20-30] | [60-70] | [50-60] | [0-10]* |
| Philips | [10-20] | [0-10] | [10-20] | [20-30] | [10-20] | [0-10]* | [10-20] | [20-30] | [10-20] | [20-30] | [20-30] | [10-20] | [20-30] | [10-20] | [10-20] | [20-30] |
| Siemens | [10-20] | [30-40] | [20-30] | [10-20] | [10-20] | [0-10]* | [10-20] | [10-20] | [0-10]* | [10-20] | [10-20] | [10-20] | [40-50] | [10-20] | [20-30] | [20-30] |
| Datascope | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [10-20] | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* |
| Others | [10-20] | [0-10]* | [20-30] | [30-40] | [30-40] | [0-10] | [30-40] | [30-40] | [0-10]* | [10-20] | [10-20] | [20-30] | [10-20] | [10-20] | [0-10]* | [50-60] |

*Source*: the notifying party.

(106) The notifying party thus estimates the merging parties' combined EEA market share in 2002 at [40 to 50 %]*, having been [40 to 50 %]* in 2000 and [40 to 50 %]* in 2001, with fringe competitors representing a substantial part of the market ([10 to 20* %], but [30 to 40 %]* and above in some national markets).

(107) The notifying party indicates ([73]) that, because of a lack of reliable publicly available sources, they have based these market share calculations on their own estimates, after having used two sources: their respective patient monitoring sales and the sales data provided by the European Coordination Committee of the Radiological Electromedical Industry (COCIR), a grouping of five medical equipment companies (Instrumentarium, Dräger, GE, Philips, and Siemens). The notifying party, however, considers that COCIR understates the sales of small rivals by approximately [30 to 40 %]* in the perioperative market. They explain that they have thus adjusted the data accordingly and that, in some countries, this ratio was adapted to reflect national differences.

(108) However, despite the indication by the notifying party that fringe manufacturers account for around [20 to 30 %]* of the EEA market (and for [30 to 40 %]* in some large national markets), external market studies ([74]) indicate substantially lower market shares for small competitors and consequently, higher market shares for the parties.

(109) In view of the discrepancies between the estimates of the parties and external market studies, the Commission has done its own market share calculations based on the sales figures of perioperative monitors given by them during the investigation and by companies quoted by the notifying party as competitors on the relevant market ([75]). The Commission also requested from the parties and their competitors to provide a breakdown of their sales between direct sales to final consumers and sales to distributors, as well as an estimate of the profit margins of these distributors. These figures were used to calculate the sales of perioperative monitors of each player to end-users ([76]).

(110) The concentration leads to significant market shares additions in some national markets. The following picture emerges for the years 2000, 2001 and 2002:

([73]) Annex 6.5 of the Form C/O.

([74]) See for instance, Frost & Sullivan 2001, 'European Anaesthesia and Respiratory Equipment Markets Report', (F&S 2001); T for G market report: Monitors and Ventilators (December 2000).

([75]) The small players mentioned in the form CO (p. 44) as being active in the market for perioperative monitors were Criticare Medical Systems, Datascope, Fukuda-Denshi, Huntleigh, Invivo, Nihon Kohden, and Welch Allyn Protocol. In the course of the investigation, the parties were asked, in respect of the unattributed market shares, to give a full list of their competitors.

([76]) When firms did not provide the requested breakdown between direct and indirect sales, the average margin indicated by the parties (as being common in the industry) was added to the companies' turnover. This methodology was used in order not to over-estimate the market shares of the parties to the concentration.

*Table 6*

**Perioperative monitors: Commission's findings***

*(%)*

| 2002 | EEA | A | BE | DK | DE | FI | FR | GR | UK | IRL | IT | NL | PT | ES | SW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GE | [0-5]* | [0-5]* | [0-5]* | [10-15]* | [5-10]* | [0-5]* | [5-10]* | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [15-20]* | [5-10]* |
| Instrumentarium | [55-60]* | [75-80]* | [55-60]* | [35-40]* | [40-45]* | [95-100]* | [45-50]* | [45-50]* | [70-75]* | [50-55]* | [50-55]* | [65-70]* | [35-40]* | [65-70]* | [70-75]* |
| Combined | [65-70]* | [75-80]* | [60-65]* | [50-55]* | [45-50]* | [95-100]* | [55-100]* | [45-50]* | [80-85]* | [55-60]* | [50-55]* | [65-70]* | [35-40]* | [80-85]* | [75-70]* |
| Philips | [10-15]* | [5- 10]* | [10-15]* | [30-35]* | [15-20]* | [0-5]* | [20-25]* | [35-40]* | [5-10]* | [20-25]* | [15-20]* | [15-20]* | [5-10]* | [5-10]* | [5-10]* |
| Siemens | [15-20]* | [10-15]* | [20-25]* | [15-20]* | [30-35]* | [0-5]* | [10-15]* | [10-15]* | [5-10]* | [20-25]* | [20-25]* | [15-20]* | [50-55]* | [5-10]* | [10-15]* |
| Datascope | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [5- 10]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Others | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Market size (EUR million) | 125,4 | 4,6 | 3,9 | 2,3 | 23 | 4,3 | 15,6 | 1,6 | 32,9 | 1,4 | 14 | 5,3 | 2 | 7,8 | 4,2 |

*Source*: the Commission's investigation.

*Table 7*

*(%)*

| 2001 | EEA | A | BE | DK | DE | FI | FR | GR | UK | IRL | IT | NL | PT | ES | SW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GE | [5-10]* | [5-10]* | [5-10]* | [0-5]* | [10-15]* | [0-5]* | [5-10]* | [0-5]* | [5-10]* | [0-5]* | [5-10]* | [15-20]* | [0-5]* | [25-30]* | [10-15]* |
| Instrumentarium | [55-60]* | [55-60]* | [45-50]* | [70-75]* | [40-45]* | [95-100]* | [45-50]* | [80-85]* | [70-75]* | [60-65]* | [50-55]* | [50-55]* | [55-60]* | [50-55]* | [65-70]* |
| Combined | [65-70]* | [60-65]* | [55-60]* | [70-75]* | [50-55]* | [95-100]* | [55-60]* | [80-85]* | [80-85]* | [60-65]* | [60-65]* | [70-75]* | [55-60]* | [80-85]* | [75-80]* |
| Philips | [10-15]* | [5- 10]* | [10-15]* | [5- 10]* | [10-15]* | [5- 10]* | [20-25]* | [0-5]* | [10-15]* | [20-25]* | [10-15]* | [10-15]* | [10-15]* | [5- 10]* | [5- 10]* |
| Siemens | [15-20]* | [30-35]* | [25-30]* | [20-25]* | [30-35]* | [0-5]* | [10-15]* | [10-15]* | [0-5]* | [10-15]* | [15-20]* | [10-15]* | [30-35]* | [5- 10]* | [15-20]* |
| Datascope | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | 5,9 | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Others | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Market size (EUR million) | 118,4 | 3 | 3,7 | 2,2 | 23,5 | 2,8 | 15,4 | 1,1 | 29,5 | 1,4 | 13,5 | 6,1 | 2,0 | 8,0 | 3,4 |

*Source*: the Commission's investigation.

*Table 8*

*(%)*

| 2000 | EEA | A | BE | DK | DE | FI | FR | GR | UK | IRL | IT | NL | PT | ES | SW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GE | [10-15]* | [0-5]* | [5-10]* | [0-5]* | [5-10]* | [0-5]* | [10-15]* | [0-5]* | [10-15]* | [15-20]* | [5-10]* | [25-30]* | [0-5]* | [25-30]* | [5-10]* |
| Instrumentarium | [50-55]* | [65-70]* | [55-60]* | [65-70]* | [45-50]* | [85-90]* | [45-50]* | [50-55]* | [60-65]* | [35-40]* | [50-55]* | [35-40]* | [30-35]* | [50-55]* | [60-65]* |
| Combinded | [65-70]* | [70-75]* | [60-65]* | [65-70]* | [55-60]* | [85-90]* | [55-60]* | [50-55]* | [75-80]* | [55-60]* | [60-65]* | [65-70]* | [30-35]* | [75-80]* | [65-70]* |
| Philips | [10-15]* | [0-5]* | [5- 10]* | [10-15]* | [10-15]* | [10-15]* | [15-20]* | [0-5]* | [10-15]* | [25-30]* | [10-15]* | [5- 10]* | [5- 10]* | [5- 10]* | [5- 10]* |
| Siemens | [15-20]* | [20-25]* | [25-30]* | [15-20]* | [30-35]* | [0-5]* | [20-25]* | [35-40]* | [0-5]* | [10-15]* | [15-20]* | [25-30]* | [55-60]* | [5- 10]* | [25-30]* |
| Datascope | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [5- 10]* | [0-5]* | [5- 10]* | [0-5]* | [0-5]* | [5- 10]* | [0-5]* |
| Others | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Market size (EUR million) | 111,3 | 3,7 | 3,5 | 2,9 | 23,5 | 2,0 | 15,1 | 0,7 | 23,0 | 1,6 | 13,6 | 5,2 | 3,2 | 8,3 | 2,9 |

*Source*: the Commission's investigation.

(111) The parties' market share estimates in the Form CO are thus significantly lower than the market shares estimated by the authors of external studies on the European market known to the Commission and by the Commission's market investigation itself.

(112) The merger would therefore bring together two of the four largest suppliers of perioperative patient monitors in the EEA. At the EEA-wide level, the merging parties would become the leading supplier of perioperative patient monitors with only two remaining sizeable competitors, Philips and Siemens.

(113) The notifying party argues ([77]) that, even on the basis of the Commission's figures, their market position does not give rise to dominance since the overlap is minimal, with GE having around [5 to 10 %]* at the EEA level in 2002, behind Philips and Siemens. Furthermore, during the course of the market investigation, Instrumentarium has contested the provisional estimate made by the Commission of the overall market size of the perioperative patient monitoring market by arguing that they did not match the estimates of the publicly available external studies. However, the Commission's estimates are consistent with F&S's forecasts ([78]).

(114) On the basis of the Commission's investigation, the parties' market position at a national level will indeed lead to a minimal overlap in a certain number of countries where GE had no activity or *de minimis* sales in 2002 ([…]* ([79])).

(115) However, the parties' combined market shares would be close to or in excess of 50 % with an overlap exceeding at least 5 % in a certain number of countries. At national level, the merger would lead to significant combined shares ([80]) in particular, France ([…]*), Germany ([…]*), Spain ([…]*), Sweden ([…]*), and the United Kingdom ([…]*) ([81]).

(116) At least in countries where they exceed 50 % (France, Spain, Sweden and the United Kingdom), the combined market shares may in themselves be evidence of the existence of a dominant position, in particular in view of the fact that the merged entity would be twice the size of its two main competitors, namely Philips and Siemens. In Germany, the combined market share of the merged entity is indicative of a dominant position insofar as it would be in excess of 40 % and well above the market shares of its two main competitors, Siemens and Philips.

([77]) Response to the 6.1.c decision, p. 3.

([78]) See the F&S's report (2001), at p. 4-44.

([79]) In […]*, GE's 2002 market share corresponded to sales amounting to EUR […]* and, in 2000 and 2001, […]*. As a result, market shares for 2002 on their own are not sufficiently reliable.

([80]) 2002 market shares.

([81]) The Commission notes that, if the market shares were to be calculated on the weighted average over the last three years, the market shares of the new entity would be as follows — France: [55 to 60 %]**; Germany: [50 to 60 %]**, Spain : [80 to 85 %]**, the United Kingdom: [80 to 85 %]** and Sweden: [75 to 80 %]**.

(117) The notifying party considers that, despite this combined share, the elimination of Instrumentarium as an independent entity would not lead to the creation of a dominant position on these markets because of the following factors ([82]):

(a) the market is a bidding market, characterised by intense rivalry, where GE is not a major player in the perioperative area and is not a close competitor to Instrumentarium;

(b) major rivals as well as smaller players would constrain any hypothetical attempt by the merged entity to increase prices;

(c) the competitive pressure will remain enhanced by hospitals, which are to be considered powerful buyers.

Purchasing processes

(118) Most purchases of perioperative patient monitors in France, Germany, Spain, Sweden, and the United Kingdom are made through a tendering procedure. In these countries, a high proportion of hospitals are public sector facilities ([83]), which, as such, are subject to public tendering rules. As is shown by bidding data provided by the notifying party and their competitors, private clinics also tend to organise tenders. Accordingly, the notifying party estimates at about 60 % to 100 % the proportion of the sales made through a tendering procedure depending on the Member State concerned ([84]).

(119) When deciding to launch a tender for patient monitors the decision-making process is generally described as follows by customers. Purchasing decisions typically include the clinicians working in the relevant medical department where the monitors are to be used. They also involve, to a lesser or greater degree, the hospital's biomedical engineers responsible for maintaining the equipment, and the administrative staff who have responsibility for the financial operations of the hospital. The need for new equipment triggers the purchase of new material. As regards perioperative patient monitors, the customers' survey has confirmed that this is largely done by anaesthesiologists who primarily use this equipment, in particular in the Operating room. They are therefore mainly responsible for determining the technical specifications that the monitors must meet. Depending on the countries, the purchasing decision is then triggered by the general manager ([85]) or by an economic committee ([86]) or by a commission of medical specialists ([87]) but in all instances after negotiations with the doctors and the medical staff needing the equipment.

(120) Because hospitals primarily value the quality and the specifications of the products when they make a choice, winning bids are not generally allocated to the lowest-price bidder, but to the supplier that best meets the individual hospital's requirements on both technical and economic grounds. As was observed in recital 103, procurement contracts are awarded on the basis of the 'most economically advantageous offer', rather than by following the 'lowest price' procedure.

(121) The qualitative requirements are expressed mostly by anaesthesiologists via detailed technical specifications, which thus restrict the range of the products in question according to their preferences. Suppliers respond to the official tender by submitting bids and hospitals then choose the supplier that best meets their requirements on the basis of various cumulative criteria. According to the market investigation, the following criteria are the most important when choosing a monitor with slight variations across countries ([88]): the quality and specifications of the product, the price, the technical service (training and after-sale maintenance over the whole life-cycle of the product), and the ability of the supplier to innovate and develop new products. Conversely, the ability of a manufacturer to offer anaesthesia machines as well plays a very limited role in the final decision ([89]).

([82]) Form CO p. 54.

([83]) Form CO, Annex 6.1: This goes from 40 % in France, 45 % in Spain, 50 % in Germany, to 80 % in the United Kingdom and Sweden.

([84]) Form CO Annex 6.1. 60 % in Spain and Germany, 70 % in France, 80 % in the United Kingdom and Sweden.

([85]) This is the case in the United Kingdom, Germany and Spain (See customers' survey and also T for G, Section 3.2, p. 4-7).

([86]) This is the case in France (See customers' survey and also T for G, Section 3.2, p. 6).

([87]) This is mostly the case in Sweden according to the customers' survey.

([88]) According to the customers' survey, in France, quality, specifications, and after-sales service were the most important factors before price. In Germany, the long-term prospects of the supplier and its ability to innovate are also mentioned as important factors before price. In Spain, customers put emphasis on quality and specifications as well as on after-sales, training and compatibility with existing monitors. In the United Kingdom, the ability of the supplier to provide training came as the first mentioned factor, just before quality, after-sales service and specifications. In Sweden, after-sales service, quality and training came as the first mentioned factors.

([89]) In all countries, this came as one of the least important factors together with the need to have a local production plant.

Actual competition

(122) In this case, the fact that purchases mostly go through a tendering procedure in the various Member States does not fundamentally affect the value of market shares as a strong indication of the merged entity's market power. The market investigation has shown that, on average, in each of the Member States concerned, the value of each contract won on a tender is relatively low and the number of tenders for perioperative monitors annually is fairly high ([90]). In addition, customisation in this market is fairly restricted since the specifications of the tender already determine whether a given supplier will submit a bid or not. Finally, there are no significant variations in the size of the market for perioperative monitors in particular in France, Germany, Spain, the United Kingdom and Sweden, and in the market shares ([91]) of the main competitors, between 2000 and 2002.

(123) Furthermore, the market for perioperative monitors is not significantly different from a standard differentiated product market. Although products are procured through a tendering process, customers' preferences are reflected in the technical specifications of the tender which, in turn, determine the number of eligible bidders. Customers have individual preferences for specific devices and would consider switching to another model only in response to a more or less significant price rise (relative to competitors). The relative closeness of substitution between the various products, even within one and the same relevant product market, thus forms an important parameter of competition in these markets and has an important influence on suppliers' market power. Market shares thus contain important information as they reflect real purchasing decisions by customers in a given year.

(124) Consequently, the Commission does not share the view that market shares are meaningless in this particular market.

(125) In order to assess whether the market shares of the merging parties overestimate or underestimate their market power, the Commission has proceeded to an in-depth analysis of the nature of competition in this bidding market. First, given that competition in these tenders is determined by the number and identity of competitors present, the frequency of encounters of the various market players has been scrutinised. Secondly, since in a differentiated product market competition is all the more intense as competitors are close substitutes, the closeness of substitution is further analysed both on qualitative and quantitative grounds. Last, the Commission sought to determine, on the basis of the available data, the possible price impact of the proposed operation.

GE's positioning on the perioperative market

(126) The notifying party claims that GE is not a major player in the perioperative area and, as such, does not appreciably affect Instrumentarium's current position ([92]). According to the notifying party, GE and Instrumentarium are not, therefore, close competitors in the perioperative monitoring market ([93]). Market shares thus overstate — it is argued — the competitive impact of the transaction.

(127) The notifying party relies, *inter alia*, on the range of products offered by GE and its market positioning primarily focused on the critical care area. However, the notifying party acknowledges that GE offers several types of monitors for use in the perioperative area (the Solar 9500, the Solar 8000M and the DASH Series ([94])), and that each of them present some strengths in comparison to competitors' products. GE's offerings thus include a wide range of monitors, from the low to the high-end, with parameters and functionalities specifically adapted to this market. GE is even quoted by several market participants as a leader in terms of research and development in the field of perioperative monitors ([95]). Therefore, the fact that GE is a stronger player in the critical care area does not disqualify it as one of the four major suppliers of perioperative monitors.

(128) The good reputation of GE's monitors in the perioperative area is further confirmed by external studies. T for G thus stresses, as regards the image perception of the parties' products, that 'GE- Marquette

([90]) Bidding data submitted by Instrumentarium thus revealed that, out of […]* bids in the EEA, [80 to 90 %]* of them were less than EUR 100 000 in value. In France, for example, the proportion reached [90 to 100 %]* between 1998 and 2002. In Spain, Instrumentarium mentions […]* bids to which it participated between 1998 and 2002. Out of […]* bids that they won, […]* were less than EUR 100 000. The same proportions can be observed in Germany ([…]* won bids, out of which […]* were less than EUR 100 000) and the United Kingdom ([…]* won bids out of which […]* were less than EUR 100 000).

([91]) […]*.

([92]) Form CO p. 54.

([93]) Form CO p. 51.

([94]) Form CO p. 52.

([95]) See responses to the Commission's Article 11 letter to competitors on R&D of 28 May 2003.

has a rather high image in anaesthetics' ([96]). Frost & Sullivan also include GE in the second tier of competitors alongside Philips and Siemens, with Instrumentarium being in the first tier ([97]).

(129) The hospitals surveyed by the Commission's market investigation generally consider that GE, Instrumentarium, Siemens and Philips all supply perioperative patient monitors of comparable quality. In each country, GE's monitors are considered by respondents as high quality monitors in the operating room, with the highest average mark in some Member States in terms of specifications ([98]). On average, all four major suppliers are ranked at the same high level in the various countries concerned.

(130) These elements contradict the assumption made by the notifying party that, from a qualitative viewpoint, GE should be considered neither a major player nor a close competitor to Instrumentarium.

Statistical analysis conducted by the Commission

(131) In order to assess the intensity of competition between the merging parties, the Commission conducted a series of statistical analyses based on the bidding data provided by Instrumentarium, GE, Draeger, Philips and Siemens. The data provided by Siemens were not useable for this type of analysis. The bidders present in each tender were identified in 3 355 cases throughout the EEA over the last five years. In the following analysis, the Commission considered the sample of bids won by either GE (either direct or via Draeger), Instrumentarium or Philips to be representative.

(132) The Commission first analysed how often the merging parties encountered each other within those 3 355 tenders. Given that suppliers select the auctions in which they participate, so that a firm does not bid if it believes it has no chance of winning, the more frequently two firms face each other in a given country relative to other potential bidders the more likely it is that their products can be considered close substitutes — at least from the sellers' perspective. In addition, the presence of a supplier in a tender is constrained by the technical specifications required by the hospital which thus restricts the range of competitors that can potentially win the bid.

(133) At the EEA level, it appears that the merging parties encountered each other in [50 to 60 %]* of the cases. Moreover, they faced no competitor in [20 to 30 %]* of the cases and only one single competitor in [20 to 30 %]* of the cases. When looking at the identity of the parties' competitors, it turns out that in [30 to 40 %]* of the cases, irrespective of how many competitors were present, the merging parties faced neither Siemens nor Philips but only various fringe players. This would suggest that the merger may result in a reduction of the number of significant players from two to one in one tender out of three.

(134) The competitive constraint exerted by the merging parties on each other also appears in the bidding data ([99]) provided by Philips: the latter won [70 to 80 %]* of the tenders where neither GE nor Instrumentarium were present, [60 to 70 %]* of those where only Instrumentarium was present, [50 to 60 %]* of those where GE only was present and only [30 to 40 %]* of those were both GE and Instrumentarium were present. Therefore, Instrumentarium appears to bid lower when GE is present. In addition, when both Instrumentarium and GE are present, Philips tends to bid lower. The merging parties together thus exert a stronger competitive constraint on Philips.

(135) At the national level there are strong contrasts, depending on the country.

(136) As regards the German market, the results suggest that GE provided by far the strongest competitive constraint on Instrumentarium. Both met in [70 to 80 %]* of all

([96]) T for G, p. 26.
([97]) F & S 3981-56, p. 4-49.
([98]) This is the case for instance in France. In Sweden, GE and Instrumentarium come first before Philips and Siemens. In the United Kingdom, Instrumentarium comes first before Philips, GE and Siemens. In Spain, customers ranked Instrumentarium first before GE, Siemens and Philips. In Germany, Instrumentarium comes first, before GE, Philips and Siemens at the same level.
([99]) 551 data points out of Philips' bidding data were useable for this analysis.

432 tenders under consideration. This figure may overestimate ([100]) the proportion of bids where both parties actually met in Germany, since it has not been possible to use in this analysis the bidding data provided by Siemens. Indeed, Germany is the national market where Siemens' turnover is the highest. Nevertheless, the above figure strongly contrasts with those relating to Philips or Siemens: Philips only participated in bids against Instrumentarium in [10 to 20 %]* of cases and Siemens in [20 to 30 %]* of the cases.

(137) Furthermore, the statistical analysis of the bidding data revealed that the merging parties encounter no other competitor in [40 to 50 %]* of the tenders where they meet ([101]), and only one single competitor in a further [30 to 40 %]* of these tenders. As a result, the merging parties face one or no competitor in [70 to 80 %]* of the tenders where they encounter each other. Moreover, it turns out that, in [80 to 90 %]* of the cases, this extra competitor is neither Siemens nor Philips, but a fringe player. These figures suggest that, given the impact of technical specifications on the presence of competitors in tenders, the merger is likely to lead to a reduction of the number of significant players from two to one in most of the tenders where the merging parties used to compete head-to-head.

(138) In Spain, the figures also suggest that GE again provides the main source of actual competition to Instrumentarium. They face each other in [60 to 70 %]* of tenders (out of a total of 542 tenders). Siemens, however, also remains a close competitor ([60 to 70 %]*) but less than GE and all three firms compete in only [40 to 50 %]* of the cases. Philips, in contrast, competes against Instrumentarium rather infrequently ([30 to 40 %]*). Besides, the merging parties face no, or only one, extra competitor in [60 to 70 %]* of the tenders where they encounter each other. Among these tenders, the merging parties face neither Siemens nor Philips in [20 to 30 %]* of the cases.

(139) As far as France is concerned, GE also appears to be by far the strongest competitive constraint on Instrumentarium: GE competed with Instrumentarium in [70 to 80 %]* of all 1 122 tenders analysed. In contrast, Siemens faced Instrumentarium only in every other tender ([50 to 60 %]*), Philips only in less than 1 tender out of […]* ([10 to 20 %]*). All four competitors meet very rarely ([0 to 10 %]*).

(140) In the remaining countries, the figures suggest that GE and Instrumentarium met more occasionally. In the United Kingdom, for instance, GE faced Instrumentarium in [20 to 30 %]* of a total of […]* tenders, while Philips competed with Instrumentarium in almost every other tender ([40 to 50 %]*). Nevertheless, among the bids where GE and Instrumentarium met, they faced no other competitor in [60 to 70 %]* of the cases and only one extra-competitor in further [20 to 30 %]* of the tenders. This suggests that there is one or less competitor facing the merging parties in [80 to 90 %]* of the tenders where they meet.

(141) The picture is similar in Belgium (both parties competed against each other in [10 to 20 %]* of […]* tenders) as well as in Finland (they met in [0 to 10 %]* of […]* tenders). In other EEA countries, the number of useable tenders was too limited to draw any reliable conclusion. For instance, in Sweden, the results tend to show that GE competed against Instrumentarium slightly more often ([40 to 50 %]*) than Philips ([30 to 40 %]*) or Siemens ([30 to 40 %]*). However, the Commission only had at its disposal all the necessary information to run this analysis for 19 tenders in Sweden over the last five years. Therefore, only limited statistically significant results can be derived from these data.

Win-loss analysis provided by the notifying party

(142) Economics Ridyard, Bishop & Baker (RBB) has submitted, on behalf of the notifying party, an analysis

([100]) Under certain assumptions, it is possible to assess to what extent the analysis overestimates the frequency of encounters of both parties in Germany. As a matter of fact, it could reasonably be assumed that GE and Instrumentarium met in the bids won by Siemens roughly as often as in the bids won by Philips, i.e. [20 to 30 %]* of the cases, according to a study submitted by Philips on 8 May 2003. Since Siemens' market share (i.e. won bids in value) in Germany is in the range of [30 to 40]* %, it can be inferred that GE and Instrumentarium meet in [70 to 80 %]* of the cases in [70 to 80 %]* of the bids (those won by either Instrumentarium, GE or Philips) and in [20 to 30 %]* of the cases in [30 to 40 %]* of the remaining bids (those won by Siemens). This lead to an extrapolated frequency of encounter of [50 to 60]* %. This figure shows that Instrumentarium encounters GE still significantly much more often than Siemens ([20 to 30 %]*) or Philips ([10 to 20 %]*).

([101]) Among the 432 tenders in Germany where the information about the present bidders was available, the parties were simultaneously present in [300 to 350]* tenders. Among those, the parties were the only bidders in [100 to 150]* tenders, faced one single other competitor in [100 to 150]* bids, among which [50 to 100]* corresponded to a fringe player (i.e. any player but Siemens, Philips or the parties).

of win-loss data to corroborate the contention that the market shares of GE and Instrumentarium do not accurately reflect, and, in fact, they overstate, the competitive impact of the notified transaction. The notifying party considers that, 'to the extent that GE provides a more competitive constraint on the behaviour of Instrumentarium than other suppliers in the relevant market, one would expect to see GE as the second-placed bidder for a large number of those bids won by Instrumentarium and vice-versa' ([102]).

(143) The RBB win/loss study is based on [2 000 to 2 500]* tenders for perioperative monitors that Instrumentarium won across the EEA ([103]) between 1998 and 2003 ([104]). The study identifies the 'runner-up', meaning the second-placed bidder in each tender won by Instrumentarium for which the information was available to the merging parties. The runner-up is taken to be the closest competitor to Instrumentarium.

(144) Although the notifying party primarily relies on this study to argue that GE was not Instrumentarium's closest rival, these data show that between 1998 and 2003 GE was the most frequent runner-up to Instrumentarium in the perioperative monitoring in Europe. According to the data submitted by the parties, at the EEA level, bids containing GE's perioperative monitors are reported as runners-up in [30 to 40 %]* of all tenders won by Instrumentarium, either when they were sold through Draeger then acting as an exclusive distributor for GE ([700 to 800]*) or when GE directly participated in the tender ([100 to 200]*). Philips' bids are recorded as runner-up in [30 to 40 %]* of the tenders, and [10 to 20 %]* for those of Siemens. Other competitors account for [10 to 20 %]* of the runner-up bids, including Datascope with [0 to 10]* %.

(145) GE is by far the most frequent runner-up to Instrumentarium in three countries: […]*, […]* and […]* ([105]). GE's monitors qualify as runner-up less frequently than Siemens or Philips in all other countries: Siemens is a runner-up in […]* ([106]), […]*, […]* ([107]), whilst Philips is a runner-up in […]*, […]*, and in the […]*.

(146) Of the [300 to 400]* tenders that occurred in France for which the parties had relevant information, GE's monitors were runners-up to Instrumentarium's in [50 to 60 %]* of the cases, either when they were sold through Draeger ([100 to 200]* tenders) or when GE directly participated in the tender ([0 to 100]*). Philips was a runner-up in […]* tenders, or [10 to 20 %]* of cases, while Siemens and Datascope came in second place in […]* and […]* tenders respectively. In the [300 to 400]* tenders for Germany, GE's monitors were runners-up to Instrumentarium's in [70 to 80 %]* of cases, either when sold through Draeger ([…]*) or when GE directly participated in the tender ([…]*), before Siemens ([…]* — [10 to 20 %]* of cases), and Philips ([…]* — [10 to 20 %]*). In Spain ([400 to 500]* data points), GE is runner-up in [60 to 70]* % of cases either through Draeger ([200 to 300]*) or direct ([0 to 100]*), that is significantly more often than Philips ([20 to 30 %]*) and Siemens ([10 to 20 %]*).

(147) This would therefore suggest that, at least in France, Germany, and Spain, GE is the closest competitor to Instrumentarium. These data would strengthen the presumption that, alongside a high market share on these markets, the merged entity would have the ability to appreciably increase prices for a significant proportion of its customers without being challenged by its competitors. In such a situation, the take-over of the closest rival would lead to a considerable loss of competition since, in any new bidding round, the merged entity will have the ability to increase its price in the knowledge that the dissatisfied customer would tend to buy its alternative product line.

(148) The notifying party, however, considers that other factors indicate that GE was not, in fact, Instrumentarium's closest competitor.

(149) First ([108]), according to the notifying party, the absence of a systematic correlation in substitution patterns across the different countries show that there is nothing intrinsic in the features of the products supplied by the parties. The Commission notes however that, if brand preferences vary across countries, this only reflects the still different conditions of competition within each

([102]) RBB Study, p. 3.

([103]) The data include only less than ten data points in Austria and Norway.

([104]) The data set contains more than 10 observations for the following countries: Belgium ([200 to 300]*), Finland ([200 to 300]*), France ([300 to 400]*), Germany ([300 to 400]*), Greece ([0 to 100]*), Italy ([100 to 200]*), the Netherlands ([0 to 100]*), Spain ([400 to 500]*) and the United Kingdom ([300 to 400]*).

([105]) GE/Draeger is also identified as the runner-up in Norway in [50 to 60 %]* of cases but on the basis of nine data.

([106]) There are, however, only [0 to 10]* observations relating to Portugal.

([107]) Siemens is actually identified by the sales forces as the runner-up in […]* out of [100 to 200]* bids.

([108]) RBB study, p. 10.

Member State. Furthermore, the fact that Draeger was not the runner-up in certain countries is also explained by the fact that it had a limited presence in the Member State concerned. Indeed, in the countries where, according to the parties' data, Draeger was not the runner-up (Belgium, Finland), it appears that Draeger had a very limited presence in the tenders.

(150) Secondly ([109]), the notifying party argues that the competitive constraint provided by Draeger/GE is overstated insofar as, during this period, Draeger was also actively marketing other suppliers' monitors (such as Philips's) despite its alliance with GE. The Commission however notes that there is no evidence that Draeger was actively selling other manufacturers' monitors during the period in question where it had an exclusive distribution contract with GE. In response to a Commission's question in that respect, the notifying party was only able to quote two examples of bids where it believed that Draeger had actively marketed other suppliers' monitors ([110]). Bidding data provided by Draeger show that its sales of competitors' monitors have in fact been extremely limited. Finally, even assuming that Draeger had been occasionally bidding third parties' products, these bids would not alter the significant trend evidenced by the parties' data, as Philips and Siemens were each considered as runners-up in only limited proportions.

The GE-Draeger alliance

(151) The notifying party also considers ([111]) that the relative success enjoyed by GE/Draeger during the alliance was due to Draeger's established anaesthesia products, to its strong relationship with anaesthetists and to its distribution infrastructure, but not to the strength of GE's perioperative monitoring offering.

(152) GE entered into an alliance with Draeger in March 1999, whereby Draeger distributed GE's monitors to the perioperative area on an exclusive basis in all EEA countries. The alliance then turned into a non-exclusive distribution agreement from February to May 2002, at which date Draeger announced its new joint venture agreement with Siemens.

(153) In the course of the investigation, the notifying party provided the Commission with internal documents relating specifically to its commercial relationship with Draeger during the period 1999-2002. The general message that emerges from GE's internal documents is that the rationale for this agreement was to allow GE to have access to Draeger's distribution network and its good relationship with anaesthesiologists. This is because GE had entered the market in 1998 with the purchase of Marquette and needed to have access to the perioperative market through an established distribution network. GE's internal documents state, for example, that there were two reasons for the alliance: 'one was distribution; the other was to ensure a closer relationship with anaesthesiologists' ([112]).

(154) The Commission acknowledges that Draeger's presence in the upstream market for anaesthesia delivery machines may have had a positive effect on GE's sales of perioperative monitors.

(155) However, far from suggesting that GE had no strong product offerings in the perioperative market, internal documents also indicate that Draeger's position could clearly benefit from this alliance thanks to GE's products. An internal document of 1999 ([113]) thus states that, amongst other things, Draeger would have […]* and that […]*. This therefore suggests that Draeger would equally benefit from GE's patient monitors offerings on the anaesthesia machine market when competing with Datex-Ohmeda.

(156) In the course of the investigation, the Commission has tried to assess, in those countries where GE/Draeger appeared as a runner-up to Instrumentarium, the reasons why Draeger's customers had bought perioperative monitors. The respondents only represented a very small sample and the results appear contradictory depending on the countries. In Germany, a large majority of respondents indicated that they had bought GE's monitors because of their own characteristics rather than because they were sold by their anaesthesia supplier. Conversely, in Spain, respondents tend to put more emphasis on the fact that the monitors were provided by Draeger, whilst in France the results were split.

(157) More generally, however, the customers' survey seem to contradict the suggestion by GE that its selection in bids as the most frequent runner-up in the perioperative area should only be attributed to Draeger's position in the anaesthesia equipment market. Indeed, a vast majority of customers choose a particular brand of monitors because they meet the technical specifications required. They also strongly rely on the ability of the supplier to rely on a good distribution network able to provide

([109]) RBB Study, p. 10.
([110]) Response to Article 11 request of 10 June 2003, p. 2.
([111]) RBB Study, p. 10.
([112]) See e-mail of 25 September 2001 (from P. van Ryzin to K. King).
([113]) Internal document of GE, […]*.

continuous maintenance and after-sales services. Customers further rank GE's monitors amongst the highest quality products together with those of Instrumentarium, Philips and Siemens. Conversely, the ability of a supplier to also offer anaesthesia machines does not appear as an important factor. The Commission's survey also shows that, when purchasing new perioperative monitors, customers rely mainly on the proven track record of the monitors' supplier and the technology offered, whether or not switching from one supplier to another.

(158) In light of the foregoing, there is reason to consider that GE's position in the perioperative area compared to other competitors, when bidding against Instrumentarium, should also be attributed to the quality of its monitors and the effectiveness of its distribution network through Draeger, rather than only to the fact that Draeger also had a product offering in the anaesthesia and the ventilation markets. This seems also confirmed by GE's initial submission in its notification ([114]), as regards its relationship with Draeger, that the success of a competitor's product in the market depends on the effectiveness of its sales force, as well as its size.

(159) The notifying party claims that GE was only the runner-up in countries where Draeger had a strong position in the anaesthesia machine market and mostly in tenders where monitors were sold together with the anaesthesia machine. Nevertheless, they provide figures which, in some countries, show no correlation between Draeger's market shares in the anaesthesia market and the number of bids where GE was runner-up to Instrumentarium. Thus, in […]*, the notifying party submits that GE was never a runner-up to Instrumentarium despite a [20 to 30 %]* market share for Draeger in the anaesthesia machines market. Similarly, the notifying party acknowledges that GE was never a runner-up to Instrumentarium in […]*, and only in [0 to 10 %]* of the bids in […]*, despite Draeger's market shares amounting to [20 to 30 %]* and [30 to 40 %]* respectively in those countries.

(160) As to the argument that GE was mostly a runner-up to Instrumentarium when Draeger was not bidding for solo monitors, the study relies on [100 to 200]* bids won by Instrumentarium in France and [100 to 200]* in Spain ([115]). In France, the notifying party claims that, of the [0 to 100]* projects where Draeger was selected as a runner-up, [70 to 80 %]* were for packaged bids and [20 to 30 %]* for solo monitors. The Commission notes that the study relies on data that only represent a minor part of all bids in France where Instrumentarium was identified as the winner ([300 to 400]*) and GE/Draeger as the runner-up ([200 to 300]*). Furthermore, the notifying party themselves acknowledges that, even when taking into account this limited sample of bids, GE/Draeger remained the runner-up to Instrumentarium before all other competitors (GE/Draeger […]*; Siemens, […]*; Philips […]*) ([116]). In Spain, the notifying party indicates that Draeger was only a runner-up in packaged bids, but relies on [100 to 200]* identified bids out of [400 to 500]* previously identified bids.

(161) The parties were also asked to provide figures for solo and package bids in Germany. There, the parties provided [0-100]* examples of bids where Instrumentarium won ([117]). Draeger was a runner-up to Instrumentarium not only in packaged bids ([…]* out of […]*, i.e. [80-90 %]*) but also in [60-70 %]* of the solo bids won by Instrumentarium ([…]* out of […]*).

(162) Finally, the notifying party argues that, following the termination of the Draeger alliance in February 2002, GE's market position has significantly deteriorated whilst Draeger's position in the perioperative segment has not weakened ([118]). The notifying party relies on the fact that GE's perioperative monitoring sales have declined in 2002 and that GE was rarely selected as a runner-up to Instrumentarium between October 2002 and March 2003.

(163) The Commission notes however that GE's relative decline in market shares in 2002 is inherent to a situation where a supplier's relationship with its distributor deteriorates, rather than to Draeger's activities as such. The notifying party acknowledges that any supplier on the perioperative monitoring market needs a dedicated distribution and sales staff ([119]) and that GE's relationship with Draeger had deteriorated as from February 2002. An internal document suggests that GE itself viewed this decline in market shares as a mere 'transition' ([120]).

(164) Because of its size and its financial means, GE has indeed the ability to establish a distribution network and dedicated sales force on the perioperative market.

([114]) Form CO, p. 47.
([115]) RBB Study, p. 14.
([116]) See pp. 14 and 15 of the RBB study.
([117]) Response to Article 11 request dated 10 June 2003.
([118]) RBB Study, page 16.
([119]) Form CO page 47.
([120]) […]*

Furthermore, given its position in the critical care monitoring market and its presence in other neighbouring markets for medical equipment such as Clinical Information Systems, GE would have a strong incentive in maintaining and growing its activities on the perioperative monitoring market in order to present customers with a full range of products. Finally, even during this transitory period where it has to re-establish a distribution network, GE was still able in 2002 to retain a sizeable market share, in particular in […]* where it remains the number […]*, in […]*, […]*, […]*, and […]*, and to remain present in tenders, thereby constituting a significant competitive constraint to other major bidders such as Instrumentarium. In […]*, GE was even able to gain market shares despite not being distributed there in previous years.

(165) Therefore, the Commission considers that the temporary reduction of GE's sales cannot be assumed to reflect the competitive constraint that GE has exerted on Instrumentarium prior to the merger and would have been likely to exert in the absence of the merger. It follows in particular that the 2002 market shares only reflect partially GE's actual presence in the market. As a result, average market shares over the years 2000, 2001, 2002 better capture the likely market position of the merging parties in the five countries under consideration (France, Germany, the United Kingdom, Spain, Sweden).

Price impact due to the merger

(166) In order to better assess the impact of the transaction the Commission has conducted a series of econometric analyses and has examined econometric studies provided by a third party and the parties.

(167) The Commission has conducted its own analysis of the likely price effect of the merger, based on the set of bidding data collected from the parties and the main competitors. The objective was to identify the effect that the presence of Instrumentarium has on the price charged by GE/Draeger to its customers, and vice versa. The Commission also analysed data from Philips and Siemens to determine the price impact of the joint presence of GE and Instrumentarium on the market.

(168) The data set for this analysis consists of electronic files submitted by each party to the merger as well as competitors (Philips and Siemens), and of a series of paper invoices and bidding documents from the parties. Based on the available data, the Commission attempted to measure the likely price effects of the merger between GE and Instrumentarium using various econometric models, mainly multi-variable linear regressions.

(169) The price impact is measured via the impact on the discounts proposed by the various competitors, in order to account for the fact that individual projects vary greatly in terms of specifications, equipment packages, and accessories, so that the actual transaction prices are not immediately comparable between different tenders.

(170) A number of problems were encountered in matching the invoice data recorded in paper form with the bidding data submitted in electronic form. These problems prevented the Commission from computing the percentage discount applied to the list price for many observations. As a result, the Commission was not able to use the data for Instrumentarium.

The likely price effect in France

(171) The Commission gathered data from bids submitted by GE alone and by Draeger. Most of the useable observations were recorded in tenders organised in France.

(172) The analysis of the bidding data ([121]) provided by Draeger suggests that the presence of Instrumentarium in tenders does indeed impact on the Draeger's prices: the average discount offered by the latter when Instrumentarium was present in the bid is [35 to 45 %]* to be compared with [25 to 35 %]* when Instrumentarium was not present. This difference is statistically significant at 99 % level of confidence.

([121]) [50 to 100]* tenders where Draeger won, from 2000 through 2002 in France.

(173) When using linear regressions controlling for various parameters ([122]), the econometric analysis carried out by the Commission led to the conclusion that Draeger's discount is [5 to 10 %]* to [5 to 10 %]* higher when Instrumentarium is present than when Instrumentarium does not participate in the tender. This leads to an average impact on Draeger's discount of [5 to 10 %]* on average. These results are statistically significant at 99 % level of confidence. They provide empirical evidence that Instrumentarium impacts on he pricing behaviour of Draeger in France ([123]).

(174) As regards the bidding data provided by GE, an analysis of the discounts offered by GE shows that they are on average in the range of [20 to 30* %], when GE faces only Siemens, [30 to 40 %]* when facing only Philips and [40 to 50 %]* when facing only Instrumentarium. As for Draeger, the Commission also ran regressions in order to identify Instrumentarium's influence on GE's discounts, if any. Given the characteristics of GE's data set, the econometric model used by the Commission is slightly different from the one used with the Draeger discount data. The results from the estimation show that GE discounts are on average [10 to 20 %]* higher when Instrumentarium is present alone than that when Instrumentarium is not present. This result is statistically significant at 99 % level of confidence. The Commission notes, however, that these econometric results were obtained using a small number of observations ([124]).

(175) The results of the data analysis for France shows that the Draeger's (selling GE's monitors) and GE's discounts are larger when Instrumentarium participates in a bid than when it does not. In addition, the Commission econometric analysis appears to bring additional evidence that Instrumentarium constrains the sales of GE's monitors. It thus further supports the presumption associated with the merging parties high combined market share.

The likely price effect at the EEA level

Philips's bidding data

(176) Philips submitted an econometric analysis of its bidding data aimed at showing that the merging parties are close competitors and that the merger would lead to price increases.

(177) NERA Economic Consulting (NERA) on behalf of Philips submitted, on 10 June 2003, an econometric study in order to assess the possible impact of the merger on prices in the perioperative and critical care patient monitors markets. The study uses Philips' own data based on recorded information about the calls for tenders in which Philips participated in 1999, 2000 and 2001 in several EEA countries, namely, Belgium, Finland, France, Germany, Italy, Netherlands, Spain, the United Kingdom, Portugal and Sweden. The data set contains observations in most countries where the merging parties hold strong positions, except for Denmark, Ireland and Greece were no data were available. The database specifies for each tender, according to Philips, which suppliers were present, which one won, the value of the bid submitted by Philips and the relating discount offered by Philips on its list prices.

(178) The study considers the level of discount offered by Philips as an indicator of the level of price. NERA considers that a direct comparison between prices would not be possible because the characteristics of each product sold in the bids are different.

(179) Controlling for other relevant factors, the study attempts to show to what extent the discount offered by Philips is affected by the presence of certain competitors, and more specifically whether the combined presence of GE and Instrumentarium affects the final discount offered by Philips to win a bid. The explanatory variables include, inter alia, a set of country dummies to control

([122]) Given the data limitation, several variables were included in the model to explain variations in Draeger's discount. For example, the value of the final tender is one of these variables. Large discounts may be associated with high tender value. Also, when some customers may receive larger discount either because they organise many tenders, or the overall value of their tenders is important. The presence of other major bidders may also affect the size of the discount offered by Draeger. In the [50 to 100]* bid recorded that Draeger won, Instrumentarium and Siemens but not Philips participated in the bids. Interestingly enough, when Siemens is present, Instrumentarium is always bidding as well. Conversely, when Instrumentarium participate in a tender, Siemens is not always a rival bidder. As a result, we let the impact of Instrumentarium varies with the presence of Siemens. [5 to 10 %]* and [5 to 10 %]* refer to the variation of Draeger's discount due to, respectively, Instrumentarium along with Siemens and Instrumentarium alone.

([123]) The Draeger average discount when Instrumentarium is present is about [30 to 40 %]*. Using this as a basis, a decrease of [5 to 10 %]* (respectively [5 to 10 %]*) in the discount of Draeger after the removal of Instrumentarium would lead to a price increase of [5 to 10 %]* (respectively [15 to 20 %]*) for the tenders in which Instrumentarium was present.

([124]) [50 to 100]* tenders where GE won, from 1998, 1999, 2001 and 2002 in France.

for the possible difference in discount from one country to another, the total value of the auction (in logarithm) and a set of competitor dummies.

(180) The results of the econometric estimation show that Philips discounts are [5 to 10]* percentage points lower when GE is present, but not Instrumentarium, and [5 to 10]* percent lower when Instrumentarium is present, but not GE compared to situations where both merging parties are participating in the bidding round ([125]). These reductions of discounts correspond to price increases of [15 to 20 %]* and [5 to 10* %], respectively, given Philips' average discount ([126]). These results are based on tenders in which Philips participated irrespective of whether Philips won or lost the bid. These results, therefore, measure the likely impact of the merger on Philips' pricing behaviour.

(181) In order to assess the impact on actual market prices, the Commission requested NERA to reproduce the same analysis on Philips' winning bids only ([127]). In this case, there is still a difference in the discount offered by Philips when GE is present but not Instrumentarium compared to a situation where both merging parties are participating to the bid. However, there is no longer any statistically significant difference in the discount when Instrumentarium is present but no GE compared to when both parties are present.

(182) It thus emerges from the analysis provided by Philips that Instrumentarium provides a competitive constraint to Philips, as the latter is forced to significantly increase its discount. When focusing on the win and loss data, it appears that Philips offers higher discount when the two merging parties are present in a bid relative to when only one of them is present. This would suggest that, as the result of the merger, Philips would be likely to offer lower discounts and would therefore be less constrained when bidding in tenders.

(183) The Commission's econometric analysis of Philips' bidding data led to similar results to those presented by Philips, thus confirming the latter. Although these results relate to the average price effect of the merger at the EEA level, it can be expected that this price effect would be stronger in countries where the parties hold a high combined market share, i.e. France, Spain, the United Kingdom, Germany and Sweden.

Siemens' bidding data

(184) The Commission conducted a separate econometric analysis based on bidding data supplied by Siemens. As for the Instrumentarium data, no information on list prices or discounts was available. In addition, it was not possible to identify winning bids from losing bids. Using the price deviation from average as described above, the analysis aim at measuring the impact of the combined presence of GE and Instrumentarium on the price offered by Siemens in tenders where it either won or lost. The results indicate that on average the combined presence of the merging parties has a substantial effect on the pricing behaviour of Siemens. The Commission, however, is cautious about these results given the poor quality of the original data.

GE's econometric study

(185) RBB on behalf of the notifying party submitted an econometric study ([128]) based on Instrumentarium's bidding data. For the same reason indicated above with regard to the NERA study, the econometric model presented by RBB uses the percentage discount off the list price as the relevant variable of interest, and not on the final transaction price. The study concludes that the presence of GE/Draeger in those bids won by Instrumentarium does not affect the final discount offered by Instrumentarium. In addition, the econometric results suggest that Philips represent the main competitive constraint to Instrumentarium. Several questions, however, remain unanswered on the empirical method used by RBB, which cast significant doubts about the validity of the results presented by RBB.

(186) The econometric study uses data from four countries, namely Italy, Germany, Spain and the United Kingdom. However, a previous win/loss analysis submitted by RBB contained a large amount of data points from France. It is not clear at this stage why these data points were discarded from the econometric study. Finally, the

([125]) The results are statistically significant.

([126]) Philips' average discount for perioperative monitors is around [30 to 40]* %, based on the study submitted by Philips on 8 May 2003.

([127]) See exhibit 3 in Philips' study dated 10 June 2003, column (a).

([128]) RBB study 'A preliminary critique of NERA's econometric analysis of the perioperative monitoring market', dated 24 June 2003.

Instrumentarium discount data used by RBB appears to be based on the recollection of the company's country managers. As there is no objective way for the Commission to verify the validity of these discounts, the Commission cannot rely on the results of the econometric study submitted by RBB.

Fringe players and potential competition

(187) The notifying party argues that smaller competitors on the perioperative market would be able to prevent the merging parties from unilaterally raising prices following the transaction.

Actual market presence

(188) In its Form CO ([129]), GE mentions several companies as being active on the perioperative market: Criticare, Datascope, Fukuda-Denshi, Invivo, Nihon Kohden, and Welch Allyn Protocol. In the course of the investigation, the notifying party also mentioned Tyco-Nellcor, Kontron, Huntleigh, and Schiller. According to the notifying party's estimates, the companies together hold a market share of [10 to 20 %]* of all sales in the EEA and more than [30 to 40 %]* in France and Germany.

(189) These figures largely exceed the various estimates provided by external surveys and by the Commission's own reconstruction exercise based on competitors' sales as from 2000. According to the Commission's investigation, the aggregate market shares of smaller manufacturers was, as a result, close to [0 to 10 %]* in the EEA and represented less than [0 to 10 %]* of total sales in all countries in 2002, except in Italy ([0 to 10 %]*).

(190) According to the notifying party, Datascope is a credible rival. The notifying party considers that Datascope's market share is somehow comparable to the one of GE's ([130]). However, although Datascope constitutes the strongest firm amongst the smaller competitors, its position is not comparable to GE's. First, Datascope's positioning in the perioperative area still remains focused on the low-end ([131]). Contrary to GE, and the other three main suppliers, Datascope does not therefore offer a range of monitors from the low to the high end. Secondly, bidding data provided by the notifying party suggest that this firm does not actually represent the competitive constraint alleged by the notifying party. In their win-loss analysis submitted to the Commission, the notifying party identified Datascope as runner-up in only [0 to 10 %]* of perioperative projects won by Instrumentarium in the EEA ([132]).

(191) On the basis of the bidding data provided during the investigation, the Commission, also examined the level of presence of Datascope reported by Instrumentarium. Of the [1 500 to 2 000]* bids for perioperative monitors reported by Instrumentarium in which it participated in France between 1998-2002, Datascope is mentioned only [50 to 100]* times as one of the suppliers present in the bid and only [0 to 50]* times as a runner-up. Of the [500 to 1 000]* bids in Germany between 1998 to 2002, Datascope is mentioned only [0 to 50]* times as one of the suppliers present in the bid (and at the same time as a runner-up). Of the [1 000 to 1 500]* bids reported by Instrumentarium in which it participated in the United Kingdom between 1998 to 2002, Datascope is mentioned [100 to 150]* times as one of the suppliers present in the bid. Finally, of the [200 to 250]* bids reported by Instrumentarium in which it participated in Spain between 1998 to 2002, Datascope is not mentioned at all.

(192) With respect the bids reported by GE, there is reliable data on other bidders only for France. Of the [1 000 to 1 500]* bids reported by GE for the French market between 1998 and 2002, Datascope is mentioned only [0 to 50]* times as one of the suppliers present in the bid and only […]* as a runner-up. Other firms, quoted in the form CO as credible rivals, are not even mentioned or only once (Welch Allyn; Nihon Kohden).

(193) The absence of small manufacturers in tenders for perioperative monitors is also confirmed by the customers' survey. Hospitals were asked, in particular, to specify the strengths and weaknesses of the various suppliers, including of small competitors mentioned by the notifying party. Hospitals were also asked to identify the various companies that had been bidding in the last tenders for perioperative or critical care patient monitors. Fringe players quoted by GE as being credible rivals were only present, short-listed, and ultimately selected in tenders for perioperative monitors in a very few number of bids reported by customers.

([129]) Form CO, p. 44.
([130]) Form CO, p. 50.
([131]) See T for G, Positioning and tactics, 3.3.2 at p. 130.
([132]) RBB study p. 9.

(194) The absence of fringe players in most short-lists in tenders for perioperative monitors results from the fact that, alongside the price offered, customers rank specifications and quality, as well as the ability of the supplier to provide after-sales services and continuous maintenance over the life cycle of the product as the main factors for choosing perioperative patient monitors. As a consequence, customers favour high-end suppliers, since they meet their specifications/quality requirements, as well as suppliers with an established distribution network. In addition, when purchasing new monitors either from the incumbent supplier or from new suppliers, customers clearly put the priority on the proven track record of the supplier and its technology ([133]).

Barriers to entry and expansion

(195) The notifying party also claims that there are no significant barriers to entry or expansion on the patient monitoring market, neither in terms of capacity constraints or R&D nor at the distribution level ([134]), preventing other companies, including smaller suppliers, to pose a real competitive constraint.

(196) The market for perioperative monitors is a differentiated product market. In particular, the market investigation has shown that the offerings of the four main manufactures highly differentiate them from those of smaller competitors. Capacity plays a minor role in manufacturers' decisions on prices.

(197) Conversely, as shown by the market investigation and external studies ([135]), innovation in the field of patient monitoring is an important parameter of competition. From a customer' point of view, the Commission's survey has also shown that the ability of a supplier to develop new products constitute an important factor when purchasing monitors. Market participants generally rank the development of new parameters (in particular for measuring the in-depth of anaesthesia), the development of software specifically adapted to the operating room, as well as the product range, as the latest important innovative developments. Further important innovations are expected in the next years in the fields of, *inter alia*, in-depth of anaesthesia monitoring and computer technology.

(198) The notifying party however claims that many components of patient monitors are bought from OEMs on a non-exclusive basis and that none of them has exclusive access to third-party suppliers. Nevertheless, several market participants have expressed concerns in that respect, underlining that access to technologies developed by innovative OEM suppliers is almost impossible for small suppliers because of their alliances with major manufacturers.

(199) Furthermore, the market investigation has shown that the development of a new perioperative monitor takes between two to five years and requires many internal and regulatory steps, as well as financial capabilities. In their ranking of the various market players in the perioperative area, GE and Instrumentarium appear as the main innovative suppliers, together with Siemens and Philips, while small competitors are not mentioned. In those conditions, entry or expansion of small competitors in the market for perioperative monitors does not appear to be likely, or sufficient in magnitude and scope to pose a significant competitive constraint to the merged entity.

(200) As concerns more specifically Siemens and Philips, the time required to develop new products would also inevitably render difficult and costly a repositioning of their product lines in the medium term in order to respond to a price increase by the merged entity.

(201) As regards the importance of service and support to customers, the market investigation has shown that, when purchasing perioperative patient monitors, customers put emphasis on the ability to provide maintenance and service over the whole-life cycle of the product, that is from seven to ten years. It follows that suppliers must not only have a good reputation and a proven track record, but also rely on a good distribution network. In that respect, the notifying party acknowledges that 'the main players for patient monitoring have well-established sales and distribution networks throughout Europe' ([136]). Conversely, it has not been shown, nor submitted, that this is also the case for smaller competitors.

(202) The absence of smaller companies and the strategic advantage held by large companies in this respect is actually confirmed by external studies such as T for G. T for G's study states, in particular, that 'all big players in

([133]) Preference for the brand is also mentioned as the next important factor but, logically, only by customers who have not switched.

([134]) Form CO, p. 47.

([135]) See for example F & S 2001, at pp. 4-49 and 4-50, which lists, among the competitive factors 'the gaining of a competitive advantage through technological innovation' and where it is stated that 'pricing strategy and the degree of technological innovation will always remain crucial issues that will play a key role in this market'.

([136]) Form CO, p. 47.

the markets of patient monitors, ventilators and anaesthesia machines are present in the large markets. The larger companies are directly present in all markets: Agilent, Draeger, GE-Marquette and Siemens. A company like Datex works through very strong distributors in certain countries. In terms of performance, these distributors can be looked on as directly present. Small companies are not present in all countries' ([137]).

(203) In light of the foregoing, the Commission considers that, contrary to the notifying party' submissions, the merged entity would not be faced with a significant competitive constraint from other firms on the market for perioperative monitors in the various Member States where it will already hold a strong position.

Lack of countervailing buyer power

(204) The notifying party considers that the merged entity will still face powerful buyers who seek to obtain the most competitive offers available. The notifying party bases its argument on the following factors: (i) whilst technical specifications are important, they can almost always be met by various suppliers; however, faced with increasingly tight hospital budgets, typically fixed well in advance, suppliers have to submit competitive prices; (ii) hospitals can defer purchases unless offered improved technology and/or cheaper prices because of the ready availability of upgrades; (iii) buyers can switch to products of competing suppliers without incurring disproportionate switching costs ([138]).

(205) The Commission's investigation has not corroborated the notifying party's assertions.

(206) First, as is acknowledged by the notifying party, technical specifications remain important in the purchasing decision taken by a hospital. In each country, a vast majority of respondents has confirmed that the proposal to purchase perioperative monitors, including the definition of the specifications that must be met by the patient monitors, is taken by anaesthesiologists, sometimes in co to ordination with biomedical engineers. The decisive influence of anaesthesiologists in deciding to purchase a specific type of patient monitors is further enhanced by the fact that, according to the customers' survey, quality, performance (which means the ability of the product to meet the specifications required), and service are the most important factors in the final decision taken by a hospital. External studies such as T for G confirm this ranking of priorities in the purchasing decision process: 'Performance and quality are the most important criteria followed by service and product durability. Price is obviously less important' ([139]).

(207) Internal documents submitted by the notifying party also show that suppliers are conscious that influencing anaesthesiologists in defining the specifications for the tender may be decisive for winning a bid. For example, in one of GE's internal documents, it is stated that […]* ([140]). These various elements strongly suggest that the ability of a supplier to meet the technical specifications still prevails as the most important factor for hospitals when deciding to purchase a specific brand of monitors, whilst prices offered by suppliers are only a secondary element in practice.

(208) Secondly, as was previously explained, the Commission's investigation has shown that, contrary to the notifying party's argument, only major suppliers are generally able to meet the technical requirements of hospitals. This considerably restricts the number of suppliers actually short-listed by hospitals in the course of the purchasing process. In practice, buyers are therefore faced with a limited choice when purchasing perioperative monitors since, in the vast majority of cases, only (some of) the four major suppliers are short listed by hospitals in the course of the bidding process. Furthermore, once tenders are organised in order to meet the hospitals' needs, the actual purchase cannot realistically be delayed for a substantial period of time and competition occurs as from the opening of the tendering procedure.

(209) Thirdly, the customer base is highly fragmented. Each individual tender accounts for a very limited proportion of a supplier's turnover. Bidding data submitted by Instrumentarium thus revealed that, out of [7 000 to 8 000]* bids in the EEA, [80 to 90* %] were worth less than EUR 100 000. In France, for example, the

([137]) T for G, p. 131. T for G further also indicates that, with respect to large companies, 'there is a national training and response centre in all countries'.

([138]) Form CO, p. 45.

([139]) T for G, p. 25.

([140]) GE/Draeger alliance, minutes of a meeting of 12 May 2000.

proportion reached [90 to 100* %] between 1998 and 2002. The same proportions can be observed in the other relevant countries ([141]). The lack of importance of each individual hospital in the overall amount of sales of a supplier is further reinforced by the fact that, due to the life cycle of monitors, tenders only need to be organised occasionally. For instance, Instrumentarium's bidding data reveal that [70 to 80 %]* of French hospitals only organised a tender once between 1998 and 2002 in which it participated.

(210) Therefore, the Commission considers that customers of the merged entity on the relevant market will not have the ability to exercise a significant countervailing buyer power.

Conclusion

(211) In light of the foregoing, the Commission concludes that the proposed operation would create a dominant position significantly impeding effective competition in five countries: Spain, the United Kingdom, Sweden, France and Germany.

(212) In Spain, the merger would lead to the combination of the first player by far (Instrumentarium, [50 to 60 %]*) with the second one (GE, [20 to 30 %]*) and would provide the merged entity with [80 to 90 %]* market shares in average over the past three years. The second largest remaining player, Siemens, holds [0 to 10 %]* market shares. Besides, GE turns out to be the main competitive constraint on Instrumentarium: it competed against the latter in [60 to 70 %]* of all tenders and has been recorded as the runner-up to Instrumentarium in [60 to 70 %]* of the tenders won by the latter. Last, the merging parties faced no, or only one, extra competitor in [60 to 70 %]* of the tenders where they meet.

(213) As regards the United Kingdom, on average over the past three years the combined market share of the new entity would be [80 to 90 %]* while Philips would hold [0 to 10 %]* and Siemens less than [0 to 10 %]* of the market. The merger would be all the more detrimental, as the merging parties face no competitor in [60 to 70 %]* of the tenders where GE and Instrumentarium compete against each other, and no, or only one, extra competitor in [80 to 90 %]* of them.

(214) On the Swedish market, the average combined market shares of the merging parties were as high as [70 to 80 %]* over the last three years. Given Instrumentarium's high market shares ([60 to 70 %]*), the addition of GE's [0 to 10 %]* market shares is likely to have a significant impact on the market. The bidding data did not contradict the strong indications given by the combined market shares as to the significant market power of the new entity.

(215) In Germany, the merger would allow the merged entity to become the market leader by far, holding average combined market shares of [50 to 60 %]* over the last three years. The second player, Siemens, holds significant market shares ([0 to 10 %]*). However, the analysis of past tenders showed that GE, despite being a smaller player, exerts a much stronger competitive constraint on Instrumentarium than Siemens or, to an even larger extent, Philips. Indeed, in terms of presence, GE bid against Instrumentarium in [50 to 60 %]* to [70 to 80 %]* of all tenders while Siemens competed with Instrumentarium in only [20 to 30 %]* of the cases and Philips [10 to 20* %]. Furthermore, in most tenders where GE and Instrumentarium competed, they faced no other competitor ([40 to 50 %]*) or only one fringe player ([30 to 40 %]*). In terms of runner-up, the study submitted by the notifying party comes to the conclusion that GE was reported as the runner-up to Instrumentarium in [30 to 40 %]* of the bids won by Instrumentarium, to be compared with [30 to 40 %]* for Philips and [10 to 20 %]* for Siemens.

(216) Finally, in the case of France, the merged entity held over the last three years high market shares ([50 to 60 %]*) with a significant overlap ([0 to 10 %]*). The next player, Philips, held twice as less market shares ([20 to 30 %]*) as the parties and encountered them very occasionally ([10 to 20 %]*) whereas GE competes with Instrumentarium in [70 to 80 %]* of all tenders. GE and Instrumentarium thus seem to exert the strongest competitive constraint on each other. This has been further confirmed by the econometric analysis of GE's and Draeger's discounts. This analysis shows that the presence of Instrumentarium in a tender led GE or its

([141]) In Spain, Instrumentarium mentions [1 500 to 2 000]* bids to which it participated between 1998 and 2002. Out of [500 to 1 000]* bids that they won, [500 to 1 000]* were less than EUR 100 000. The same proportions can be observed in Germany ([1 000 to 1 500]* won bids, out of which [500 to 1 000]* were less than EUR 100 000) and the United Kingdom ([1 500 to 2 000]* won bids out of which [1 000 to 1 500]* were less than EUR 100 000).

distributor, Draeger, to offer prices lower by [5 to 10 %]* to [15 to 20 %]* on average.

(217) Therefore, the Commission has come to the conclusion that, in the above mentioned Member States, the merger will not only lead to the creation of a new entity holding high market shares but also will remove the significant competitive constraint that, prior to the operation, the two merging firms exerted on each other. As a result of the merger, the merged entity would thus have the ability in those five countries to act, to an appreciable extent, independently from its competitors and ultimately consumers, and therefore to significantly raise prices charged to customers.

(218) For all the above reasons, the Commission has come to the view that the notified concentration is incompatible with the common market and the functioning of the EEA agreement, since it would create a dominant position in the market for perioperative patient monitors in France, Germany, Spain, Sweden, and the United Kingdom, as a result of which effective competition would be significantly impeded within the meaning of Article 2(3) of the Merger Regulation.

1.2. *Critical care monitors*

(219) According to the information provided by the notifying party in the Form CO, in the case of critical care monitors, the concentration would result in the following market shares:

*Table 9*

**Critical care patient monitors**

*(%)*

| 2002 | EEA | A | BE | DK | DE | FI | FR | GR | UK | IRL | IT | NL | PT | ES | SW | NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GE | [10-20]* | [0-10]* | [20-30]* | [10-20]* | [10-20]* | [0-10]* | [10-20]* | [10-20]* | [10-20]* | [10-20]* | [10-20]* | [10-20]* | [0-10]* | [10-20]* | [20-30]* | [10-20]* |
| Instrumentarium | [10-20]* | [10-20]* | [10-20]* | [0-10]* | [0-10]* | [20-30]* | [0-10]* | [0-10]* | [10-20]* | [0-10]* | [10-20]* | [0-10]* | [0-10]* | [10-20]* | [10-20]* | [20-30]* |
| Combined | [20-30]* | [20-30]* | [30-40]* | [20-30]* | [20-30]* | [30-40]* | [10-20]* | [20-30]* | [30-40]* | [10-20]* | [20-30]* | [20-30]* | [0-10]* | [20-30]* | [30-40]* | [30-40]* |
| Philips | [30-40]* | [30-40]* | [40-50]* | [20-30]* | [30-40]* | [20-30]* | [30-40]* | [10-20]* | [30-40]* | [30-40]* | [20-30]* | [30-40]* | [40-50]* | [30-40]* | [40-50]* | [30-40]* |
| Siemens | [20-30]* | [20-30]* | [10-20]* | [20-30]* | [20-30]* | [20-30]* | [20-30]* | [10-20]* | [10-20]* | [10-20]* | [20-30]* | [20-30]* | [20-30]* | [20-30]* | [0-10]* | [10-20]* |
| Datascope | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* |
| Others | [20-30]* | [0-10]* | [0-10]* | [20-30]* | [20-30]* | [20-30]* | [20-30]* | [30-40]* | [20-30]* | [20-30]* | [20-30]* | [10-20]* | [20-30]* | [20-30]* | [10-20]* | [10-20]* |

*Source*: the notifying party.

(220) On the basis of the Commission's investigation ([142]), the market shares would be as follows:

*Table 10*

*(%)*

| 2002 % | EEA | A | BE | DK | DE | FI | FR | GR | UK | IRL | IT | NL | PT | ES | SW | NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GE | [10-20]* | [0-10]* | [0-10]* | [0-10]* | [10-20]* | [0-10]* | [10-20]* | [30-40]* | [10-20]* | [20-30]* | [10-20]* | [20-30]* | [0-10]* | [10-20]* | [10-20]* | [20-30]* |
| Instrumentarium | [10-20]* | [20-30]* | [10-20]* | [0-10]* | [0-10]* | [40-50]* | [0-10]* | [10-20]* | [10-20]* | [0-10]* | [10-20]* | [10-20]* | [0-10]* | [10-20]* | [10-20]* | [20-30]* |
| Combined | [20-30]* | [30-40]* | [20-30]* | [0-10]* | [20-30]* | [40-50]* | [20-30]* | [40-50]* | [30-40]* | [30-40]* | [20-30]* | [30-40]* | [0-10]* | [30-40]* | [30-40]* | [40-50]* |
| Philips ([143]) | [30-35]* | [20-25]* | [45-50]* | [30-35]* | [25-30]* | [35-40]* | [45-50]* | [25-30]* | [25-30]* | [30-35]* | [25-30]* | [35-40]* | [20-25]* | [35-40]* | [40-45]* | [40-45]* |
| Siemens | [20-25]* | [25-30]* | [25-30]* | [40-45]* | [35-40]* | [0-5]* | [15-20]* | [10-15]* | [10-15]* | [20-25]* | [30-35]* | [20-25]* | [55-60]* | [10-15]* | [20-25]* | [0-5]* |
| Others | [15-20]* | [15-20]* | [0-5]* | [15-20]* | [15-20]* | [5-10]* | [10-15]* | [20-25]* | [25-30]* | [20-25]* | [15-20]* | [5-10]* | [5-10]* | [0-5]* | [0-5]* | [5-10]* |

*Source*: the Commission's market investigation.

(221) The EEA market share of the parties would reach [25 to 30 %]* behind Philips ([30 to 35 %]*) and would be similar to Siemens ([20 to 25 %]*). GE/Instrumentarium will become one of the three big market players alongside Siemens and Philips. At national level, the merger would lead to substantial overlaps in some countries (Austria, Finland, Greece, the United Kingdom, Ireland, Italy, the Netherlands).

(222) Contrary to the perioperative market, other manufacturers have more important market shares in the critical care monitoring market. As shown by the market investigation, this is because the need for highly technical parameters is less acute in many of the critical care areas than in the perioperative are. The overall market share of the small and medium size companies, including Datascope, is therefore more important. However, many of these fringe players are not known to many customers and are considered as the low end of the market. Most customers do not consider them as credible competitors to GE, Instrumentarium, Siemens or Philips.

(223) Furthermore, since the purchasing process of critical care monitors mostly involves a bidding procedure, where the technical specifications are mostly done by the doctors of the relevant medical department, the Commission has further examined the actual competitive constraints exercised by each of the merging firms on the market, as well as the likely effect of the merger on prices.

Closeness of substitution

(224) The analysis of the conditions of competition in this bidding market also confirmed that Instrumentarium and GE could be not considered as close substitutes.

(225) The Commission conducted the same type of statistical analysis as described in the part relating to perioperative patient monitors. This analysis showed that, among the 2 727 tenders identified in the EEA where all the necessary information were available, Instrumentarium met GE in [20 to 30 %]* of the cases, whilst it faced Philips in [30 to 40 %]* of the cases and Siemens in [20 to 30]* %. Therefore, Instrumentarium has to compete against Philips more often than with GE. Moreover, in the tenders where the merging parties were both present, they faced two or more extra-competitors in [70 to 80 %]* of these instances and either Philips or Siemens or both competitors in [80 to 90 %]* of the cases. Therefore, in most tenders where the parties met, they are faced with a significant number of competitors.

([142]) The same method as described for perioperative monitors was followed in the case of critical care monitors.

([143]) Philips has not provided its sales for GR, DK and NO. The market shares indicated on this table are based on the figures that the notifying party has submitted in the Form CO.

(226) The notifying party carried out a statistical study ([144]) in order to assess how often GE and Instrumentarium were winner/runner-up. In bids won by GE over the last five years, Instrumentarium appears as the runner-up in only [10 to 20 %]* of cases ([145]) (out of [200 to 300]* tenders) on an EEA basis, far behind Philips ([60 to 70 %]*). On a country-by-country basis, the proportion is similar but in the Netherlands where Instrumentarium is considered GE's runner-up in [70 to 80 %]* of cases. Nevertheless, the result is based on only four tenders and is therefore not statistically significant.

Price impact

(227) However, even though Instrumentarium and GE appear not to be close substitutes, they may exert a price constraint on each other through their pricing policy. In order to assess this possible impact, the Commission ran the same type of price analysis as described in the part relating to perioperative patient monitors based on the bidding data provided by the notifying party and their main competitors ([146]).

(228) Contrary to the analysis carried out on perioperative patient monitors, no statistically significant price impact has been identified in analysing Philips' as well as Instrumentarium's and GE's bidding data.

Conclusion

(229) The merger will strengthen the parties' market position in critical care. GE/Instrumentarium will become one of the three big market players alongside Siemens and Philips. However, given the above mentioned market shares and the statistical analysis of bidding data, the Commission concludes that the combination of the parties market positions would not lead to the creation of a dominant position as a result of which effective competition would be significantly impeded.

## 2. **Mobile C-arms**

*Market shares*

(230) The parties' activities overlap horizontally in (i) vascular C-arms and (ii) low-end C-arms in a number of Member States. In cardiac C-arms, no overlap occurs as only GE, but not Instrumentarium, is active in this market.

(231) According to the notifying party, the operation would lead to the following market shares in vascular and low-end C-arms by value ([147]). The bottom row indicates each country's total market size in EUR million.

*Table 11*

**Vascular C-arms — National market shares by value**

*(%)*

| 2002 | AT | BE | DK | D | FI | FR | GR | UK | IRL | IT | NL | PT | ES | SW | NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GE | [10-20]* | [10-20]* | [0-10]* | [0-10]* | [0-10]* | [50-60]* | [0-10]* | [20-30]* | [30-40]* | [30-40]* | [20-30]* | [0-10]* | [20-30]* | [20-30]* | [60-70]* |
| Instrumentarium | [70-80]* | [30-40]* | [30-40]* | [30-40]* | [40-50]* | [0-10]* | [0-10]* | [10-20]* | [0-10]* | [10-20]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* |
| Combined | [80-90]* | [50-60]* | [30-40]* | [40-50]* | [40-50]* | [50-60]* | [0-10]* | [30-40]* | [30-40]* | [40-50]* | [20-30]* | [0-10]* | [20-30]* | [20-30]* | [60-70]* |
| Philips | [0-10]* | [50-60]* | [10-20]* | [30-40]* | [50-60]* | [0-10]* | [0-10]* | [20-30]* | [30-40]* | [10-20]* | [40-50]* | [0-10]* | [30-40]* | [30-40]* | [10-20]* |
| Siemens | [0-10]* | [0-10]* | [50-60]* | [20-30]* | [0-10]* | [30-40]* | [0-10]* | [30-40]* | [30-40]* | [20-30]* | [20-30]* | [0-10]* | [30-40]* | [40-50]* | [10-20]* |
| Others | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [10-20]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* |
| Market size EUR million (EEA: 35,1) | 2,0 | 0,6 | 0,6 | 15 | 0,2 | 5,0 | 0 | 4,0 | 0,2 | 2,0 | 2,0 | 0 | 2,0 | 0,8 | 0,8 |

*Source*: the notifying party.

([144]) RBB study, p. 20 et seq.
([145]) RBB study, Table 8, p. 20.
([146]) Siemens and Philips. Eventually, Siemens' data set could not be used for the analysis because of the poor quality of the data.
([147]) The volume market shares do not differ significantly.

*Table 12*

**Low-end C-arms — National market shares by value**

*(%)*

| 2002 | AT | BE | DK | D | FI | FR | GR | UK | IRL | IT | NL | PT | ES | SW | NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GE | [0-10]* | [20-30]* | [0-10]* | [20-30]* | [10-20]* | [40-50]* | [10-20]* | [0-10]* | [0-10]* | [20-30]* | [10-20]* | [20-30]* | [40-50]* | [0-10]* | [20-30]* |
| Instrumentarium | [20-30]* | [30-40]* | [30-40]* | [30-40]* | [50-60]* | [0-10]* | [0-10]* | [20-30]* | [0-10]* | [10-20]* | [0-10]* | [0-10]* | [0-10]* | [20-30]* | [10-20]* |
| Combined | [20-30]* | [50-60]* | [40-50]* | [60-70]* | [70-80]* | [40-50]* | [10-20]* | [20-30]* | [0-10]* | [40-50]* | [10-20]* | [20-30]* | [50-60]* | [20-30]* | [30-40]* |
| Philips | [20-30]* | [10-20]* | [20-30]* | [20-30]* | [0-10]* | [10-20]* | [0-10]* | [30-40]* | [0-10]* | [10-20]* | [50-60]* | [0-10]* | [20-30]* | [50-60]* | [20-30]* |
| Siemens | [40-50]* | [30-40]* | [20-30]* | [10-20]* | [30-40]* | [20-30]* | [0-10]* | [30-40]* | [0-10]* | [0-10]* | [20-30]* | [0-10]* | [0-10]* | [20-30]* | [40-50]* |
| Others | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [80-90]* | [0-10]* | [0-10]* | [30-40]* | [0-10]* | [70-80]* | [10-20]* | [0-10]* | [0-10]* |
| Market size EUR million (EEA: 26,5) | 0,4 | 1,3 | 0,4 | 8 | 0,2 | 5 | 0,3 | 4,0 | 0 | 3,0 | 0,4 | 0,2 | 2,0 | 0,7 | 0,6 |

*Source*: the notifying party.

(232) The Commission's market investigation broadly confirms the market shares submitted by the notifying party, in particular with regard to the relative sales of the four largest players, GE, Instrumentarium, Siemens and Philips.

(233) In vascular C-arms, high market shares occur, in particular, in Austria ([…* %]), Belgium ([…* %]), Germany ([…* %]), France ([…* %]) and in Italy ([…* %]).

(234) In the market for low-end C-arms, the combined entity will obtain high market shares with overlapping activities, for example, in Belgium ([…* %]), Denmark ([…* %]), Germany ([…* %]), Finland ([…* %]), France ([…* %]) and Spain ([…* %]).

(235) The parties' average market share across the EEA, according to their own figures, is [40 to 50 %]* for vascular C-arms and [40 to 50 %]* for low-end C-arms, respectively.

(236) Whereas market shares have been quite stable in the larger markets between 2000 and 2002, they fluctuate widely in the smaller Member States, where sometimes only a handful of devices is sold each year and single orders can cause large swings in market shares. For example, GE/Instrumentarium had a combined market share of [80 to 90 %]* in Austria in 2002, but only [30 to 40 %]* in 2000. In Belgium, the parties had [50 to 60 %]* in 2002 after [10 to 20 %]* a year earlier. Similar fluctuations in market shares can be observed in low-end C-arms.

(237) The majority of respondents to the market investigation stated that prices for C-arms had been stable or declining in the past five years.

(238) Capacity constraints appear to play a relatively minor role in manufacturers' decisions on price and quantity.

(239) The market share tables show, furthermore, that four players, GE, Instrumentarium (Ziehm), Siemens and Philips each achieve significant market shares across a range of EEA countries. GE, Siemens and Philips, in addition, all manufacture an extensive range of medical equipment and have strong distribution capabilities throughout the EEA (and, indeed, worldwide). Instrumentarium equally has strong positions in several medical equipment markets, although its product portfolio is somewhat narrower.

(240) Besides, the Commission's market investigation has also found that customers consider C-arms as relatively less differentiated than other medical devices, such as in particular anaesthesia delivery systems and patient monitors. Although failure of a C-arm device can have serious consequences, it does not normally lead to immediately life threatening situations (as for example in anaesthesia delivery or intensive care ventilation). Moreover, the main quality and performance parameters of a C-arm device (such as image quality or handling) are observable by a potential customer in advance, whereas for other types of equipment they are 'embedded' in the supplier's track record and reputation. (Again, anaesthesia delivery systems are the most salient example for the latter product category.) Switching between the main suppliers of C-arms is, thus, comparatively easier.

(241) A number of niche players, including Sias, Eurocolumbus, Apelem, Metaltronica and other achieve modest market shares, mainly in Italy. They are not generally known to customers outside their home country and are attributed to the bottom end of the market. Most customers do not consider them credible competitors to GE, Instrumentarium, Siemens or Philips.

(242) By contrast, the hospitals surveyed by the Commission's market investigation generally consider that GE, Instrumentarium, Siemens and Philips all supply vascular and low-end C-arms of comparable quality and would be a viable alternative in response to even a small relative price rise. There will, hence, remain after the merger three competitors with an extensive portfolio of medical equipment and strong distribution capabilities in each of the national markets where the parties' activities overlap in either vascular or low-end C-arms.

*Closeness of substitution*

(243) The notifying party has submitted an analysis of win-loss data to corroborate their contention that GE/Instrumentarium's market shares do not accurately reflect and, in fact, overstate the competitive impact of the notified transaction. Because only a limited number of data points is included in the study, the notifying party' analysis relates to bids for all types of mobile C-arms during the period 1998 to 2003. It looks at the number of times that Instrumentarium, as opposed to other competitors, was selected as runner-up in tenders that GE ([148]) won. Only for Germany the same analysis is also performed on tenders that Instrumentarium ([149]) won.

(244) On the basis of bids where GE won, at the EEA level Siemens is reported as runner-up in [40 to 50 %]* of all cases, followed by Philips ([30 to 40 %]*) and Instrumentarium ([0 to 10 %]*). Other competitors, including SIAS, Eurocolumbus and Gilardoni, account for [0 to 10]* %. They show up significantly only in Italy, in addition to Finland ([…]* from 1998 to 2003) and Spain ([…]*). According to this data, Instrumentarium qualifies as runner-up substantially less frequently than both Siemens and Philips in all countries, except in […]*, where it is […]* with Philips. ([150]) It occurs as runner-up less frequently than one would expect if all suppliers were equally close substitutes ([151]).

(245) Based on bids where Instrumentarium won (in Germany only), Philips was runner-up in [50 to 60 %]* of cases, followed by Siemens ([20 to 30 %]*) and GE ([10 to 20 %]*). No other companies occur as runner-up in this country. Again, GE is listed as runner-up less frequently than one would expect if all suppliers were equally close substitutes.

(246) Hence, the bidding data presented by the notifying party tend to indicate that market shares in this case overstate the impact of GE's and Instrumentarium's combined market power further to the merger.

*Price impact*

(247) As for patient monitors, the Commission has conducted its own analysis on a more extensive set of bidding data collected from the parties and the main competitors ([152]). The objective was to identify the effect that the joint presence of GE and Instrumentarium had on prices in past bidding rounds and, further, the price effect, if any, that the removal of Instrumentarium as an independent competitor would have.

(248) The results of this extended empirical assessment were that the presence of Instrumentarium as an independent bidder in the auction and the number of bidders does not appear to have had any systematic influence over the size of the discount offered by GE in its bids. In none of the models that the Commission estimated was the coefficient of the dummy variable capturing the

([148]) The GE win data presented by the parties contains [400 to 500]* data points from tenders across the EEA from 1998 to 2003 that GE won. The cross-country distribution of the data seems to be based simply on availability. More than 15 data points each are included from the following countries: Belgium ([50 to 100]*), France ([50 to 100]*), Germany ([50 to 100]*), Italy ([50 to 100]*), Spain ([0 to 50]*) and the United Kingdom ([50 to 100]*).

([149]) The Instrumentarium win data presented by the parties contains [0 to 100]* data points from 1998 to 2002, all from Germany. The parties claim that, because Instrumentarium sells predominantly through independent distributors, they were unable to gather accurate bidding data for more EU countries to be included in their analysis.

([150]) There are, however, only [0 to 10]* observations relating to Portugal.

([151]) The parties' conclusion from this analysis appears to go further, implying that GE and Instrumentarium would need to be closest substitute for a merger to lead to any competitive harm: […]* The Commission does not follow this analysis.

([152]) I.e. Siemens and Philips. Eventually, Philips' data set could not be used for the analysis because of the poor quality of the data.

presence of Instrumentarium in the auction statistically significant. Such findings hold irrespectively of how the discount is computed or its proxy and whether the key European markets are considered collectively or individually (where data permit) or whether the focus is on winning bids only or all bids (both winning and losing bids).

*Conclusion*

(249) The notified transaction will lead to relatively high shares in the markets for vascular and low-end C-arms in several Member States. Nevertheless, there will after the operation remain three credible competitors in both markets, which all have an extensive portfolio of medical products with market leading positions in at least some medical product markets and strong distribution capabilities across all EEA countries. The power of market shares as an indicator of market power is limited in this case by the high volatility of market shares, particularly in the smaller Member States, the fact that the parties' products are relatively distant substitutes as indicated by the win-loss analysis and the low level of differentiation between the leading suppliers' product ranges. Finally, the Commission's econometric analysis of bidding data has not shown any price effects from the joint presence of GE and Instrumentarium in tenders for C-arm equipment.

(250) The analysis leads to the same conclusion if a wider product market, comprising all mobile C-arm devices, is used as a basis.

(251) In view of these elements, the Commission concludes that the combination of the parties market positions would not lead to the creation of a dominant position as a result of which effective competition would be significantly impeded as far as mobile C-arms are concerned.

3. **Mammography devices**

A. *Analogue mammography*

(252) Both GE and Instrumentarium are active in analogue mammography and the proposed operation will therefore lead to horizontal overlaps. As a result of the transaction GE/Instrumentarium will become the market leader in analogue mammography devices in the EEA and in almost all the Member States.

General Market Features

(253) The market investigation has shown that the analogue mammography market has become a mature market.

(254) From the supply side, both the market investigation ([153]) and external studies provided by the notifying party ([154]) underline that analogue technology is a mature technology ('technology has reached its limits') and innovations are limited mostly to features such as image quality.

(255) Producers of analogue mammography devices are mainly assemblers as they source a large proportion of their inputs (around [70 to 80 %]*) from third party component manufacturers. Competition in this market is mainly driven by investment on reputation, quality and the services offered with these products, as well as on prices.

(256) From the demand side, the sales of analogue mammography devices are overall declining both in terms of units and value and the main part of the demand arises from the replacement of obsolete equipment.

(257) This declining trend in the demand for analogue mammography equipment is expected to increase in the future because of the transition to digital equipment. The market investigation has showed that a significant number of customers envisage to upgrade analogue mammography to digital or to procure a full field digital equipment in the next three years. All producers have confirmed this transition to the digital field ([155]): It is expected that in 2004, 40 % of the revenues for mammography will come from digital, going up to 60 % in 2006 ([156]).

Market shares

(258) As for monitors and C-arms, the notifying party in the notification indicates that, because of lack of reliable publicly available sources, market share calculations

([153]) Competitors' reply to the Commission's questionnaires on R&D in Mammography dated 28 May 2003.
([154]) Frost & Sullivan, World X-Ray Mammography Market, 2001, Chapter 3.
([155]) Competitors' reply to the Commission's questionnaires on R&D in Mammography dated 28 May 2003.
([156]) Frost & Sullivan, World X-Ray Mammography Market, 2001, Chapter 4.

were based on their own best estimates using their respective sales and the sales data provided by the European Coordination Committee of the Radiological Electromedical Industry (COCIR), a grouping of five medical equipment companies (Instrumentarium, Dräger, GE, Philips, and Siemens) ([157]). The notifying party considers that this calculation overstates their position because of the difficulty in establishing the sales of the smaller competitors through independent distributors.

(259) Therefore, the Commission has made its own market share calculations on the basis of its requests for information on the sales figures of mammography devices addressed to the merging parties and to its competitors on the relevant market.

(260) Based on the replies to these requests for information, the Commission estimates that the concentration leads to an EEA combined market share of [35 to 40 %]* for analogue mammography. The main competitor, Siemens accounts for [20 to 25 %]* of the market. Among the other players, Planmed accounts for around [10 to 15]* %, while Hologic/Lorad, Giotto and Metaltronica, for less than [10 to 15]* %.

(261) According to the data collected, at national level the operation would lead to the following market shares in analogue mammography by value ([158]). The bottom row indicates each country's total market size in million EUR.

*Table 13*

**Analogue mammography — National market shares 2002**

*(%)*

| 2002 by value | EEA | AT | BE | DK | DE | ES | FIN | FR | GR | IRL | IT | NL | PT | SW | UK | NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GE | [25-30] | [25-30] | [40-45] | [0-5] | [40-45] | [30-35] | [0-5] | [30-35] | [40-45] | [35-40] | [25-30] | [10-15] | [65-70] | [0-5] | [30-35] | [0-5] |
| Instrumentarium | [5-10] | [0-10] | [5-10] | [5-10] | [0-5] | [5-10] | [60-65] | [5-10] | [5-10] | [0-5] | [15-20] | [15-20] | [0-5] | [5-10] | [5-10] | [45-50] |
| Combined | [35-40] | [25-30] | [45-50] | [5-10] | [40-45] | [40-45] | [60-65] | [40-45] | [50-55] | [35-40] | [45-50] | [25-30] | [70-75] | [5-10] | [35-40] | [45-50] |
| Siemens | [20-25]* | [45-50]* | [20-25]* | [5-10]* | [30-35]* | [30-35]* | [20-25]* | [15-20]* | [10-15]* | [60-65]* | [5-10]* | [20-25]* | [5-10]* | [90-95]* | [40-45]* | [55-60]* |
| Philips | [0-5]* | [15-20]* | [0-5]* | [0-5]* | [10-15]* | [5-10]* | [0-5]* | [0-5]* | [15-20]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Hologic | [5-10]* | [0-5]* | [15-20]* | [10-15]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [10-15]* | [0-5]* |
| Planmed | [10-15]* | [0-5]* | [0-5]* | [70-75]* | [5-10]* | [0-5]* | [15-20]* | [15-20]* | [0-5]* | [0-5]* | [5-10]* | [45-50]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* |
| Giotto | [5-10]* | [5-10]* | [5-10]* | [0-5]* | [5-10]* | [5-10]* | [0-5]* | [5-10]* | [10-15]* | [0-5]* | [15-20]* | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* |
| Metaltronica | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [15-20]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Market size | 47,85 | 1,82 | 1,33 | 0,80 | 5,10 | 3,40 | 0,61 | 12,1 | 1,01 | 0,39 | 9,33 | 1,31 | 1,72 | 0,85 | 5,91 | 0,44 |

*Source*: the Commission's investigation.

([157]) Annex 6.11 of the Form C/O.

([158]) The volume market shares do not differ significantly.

*Table 14*

**Analogue mammography — National market shares 2001**

*(%)*

| 2001 by value | EEA | AT | BE | DK | DE | ES | FIN | FR | GR | IRL | IT | NL | PT | SW | UK | NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GE | [35-40]* | [10-15]* | [45-50]* | [0-5]* | [40-45]* | [65-70]* | [0-5]* | [40-45]* | [55-60]* | [40-45]* | [35-40]* | [25-30]* | [65-70]* | [0-10]* | [30-35]* | [0-5]* |
| Instrumentarium | [10-15]* | [0-5]* | [5-10]* | [30-35]* | [5-10]* | [0-5]* | [85-90]* | [5-10]* | [0-5]* | [0-5]* | [10-15]* | [55-60]* | [15-20]* | [35-40]* | [0-5]* | [60-65]* |
| Combined | [50-55]* | [10-15]* | [50-55]* | [30-35]* | [45-50]* | [70-75]* | [0-5]* | [50-55]* | [60-65]* | [40-45]* | [50-55]* | [85-90]* | [80-85]* | [35-40]* | [30-35]* | [60-65]* |
| Siemens | [25-30]* | [75-80]* | [25-30]* | [15-20]* | [30-35]* | [10-15]* | [0-5]* | [15-20]* | [20-25]* | [35-40]* | [10-15]* | [5-10]* | [0-5]* | [60-65]* | [55-60]* | [35-40]* |
| Philips | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Hologic | [5-10]* | [0-5]* | [10-15]* | [35-40]* | [0-5]* | [5-10]* | [0-5]* | [5-10]* | [10-15]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* |
| Planmed | [5-10]* | [0-5]* | [5-10]* | [10-15]* | [5-10]* | [0-5]* | [10-15]* | [15-20]* | [0-5]* | [15-20]* | [10-20]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Giotto | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Metaltronica | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [20-25]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Market size | 48,00 | 0,75 | 2,20 | 0,41 | 4,33 | 3,33 | 0,91 | 14,2 | 0,75 | 0,61 | 8,03 | 1,46 | 1,73 | 0,59 | 8,2 | 0,55 |

*Source*: the Commission's investigation.

*Table 15*

**Analogue mammography — National market shares 2000**

(%)

| 2000 by value | EEA | AT | BE | DK | DE | ES | FIN | FR | GR | IRL | IT | NL | PT | SW | UK | NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GE | [40-45]* | [35-40]* | [45-50]* | [0-5]* | [25-30]* | [60-65]* | [0-5]* | [45-48]* | [35-40]* | [45-50]* | [40-45]* | [25-30]* | [60-62]* | [0-5]* | [25-30]* | [0-5]* |
| Instrumentarium | [5-10]* | [0-5]* | [5-10]* | [0-10]* | [5-10]* | [10-15]* | [50-55]* | [0-5]* | [0-5]* | [0-5]* | [10-15]* | [15-20]* | [10-15]* | [0-5]* | [0-5]* | [0-5]* |
| Combined | [45-50]* | [40-45]* | [55-60]* | [0-5]* | [30-35]* | [70-75]* | [50-55]* | [50-55]* | [35-40]* | [45-50]* | [55-60]* | [45-50]* | [70-75]* | [0-5]* | [25-30]* | [0-5]* |
| Siemens | [25-30]* | [35-40]* | [20-25]* | [25-30]* | [35-40]* | [5-10]* | [30-35]* | [15-20]* | [35-40]* | [55-60]* | [10-15]* | [15-20]* | [10-15]* | [95-100]* | [50-55]* | [95-100]* |
| Philips | [0-5]* | [10-15]* | [5-10]* | [0-5]* | [15-20]* | [5-10]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [30-35]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* |
| Hologic | [0-5]* | [0-5]* | [10-15]* | [45-50]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [10-15]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* |
| Planmed | [5-10]* | [0-5]* | [0-5]* | [20-25]* | [10-15]* | [0-5]* | [10-15]* | [15-20]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* |
| Giotto | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Metal-tronica | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [15-20]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* | [0-5]* |
| Market size | 52,29 | 1,06 | 2,42 | 0,26 | 4,05 | 3,50 | 0,84 | 14,6 | 0,72 | 0,80 | 10,2 | 1,33 | 1,46 | 0,76 | 10,7 | 0,25 |

*Source*: the Commission's investigation.

(262) The Commission considers that market shares provide a first proxy to determine the relative market position of the various competitors from a customer point of view. Market shares contain important information as they reflect real purchasing decisions by customers in a given year.

(263) The merger would lead to significant overlaps in many national markets with combined market shares above 40 % in 2002 in Belgium, France, Germany, Greece, Italy, Portugal, Spain. Only in Greece the parties will attain market shares above 50 % and a substantial overlap (exceeding at least 5 %) (combined: […* %]), while in Portugal the parties will reach a [70 to 75 %]* market shares but with a minimal overlap (GE: [65 to 70]* %; Instrumentarium: [0 to 5 %]*).

(264) Looking at the evolution of the GE/Instrumentarium combined market shares, these are declining both at the EEA level ([35 to 40 %]* in 2002 from [50 to 55 %]* in 2001 and [45 to 50 %]* in 2000) and in all the countries where the merger leads to a significant overlap. For example, in France, the combined Market shares decreased from [50 to 55 %]* in 2000, to [50 to 55 %]* in 2001 and to [40 to 45 %]* in 2002, while in Italy the market share declined from [55 to 60 %]* in 2000, to [50 to 55 %]* in 2001 and to [45 to 50 %]* in 2002.

(265) In Greece and Portugal where the parties' market shares are above 50 %, the combined market shares decreased in 2002. In Portugal the market share declined from [80 to 85 %]* in 2001 to [70 to 75 %]* in 2002 and in Greece from [60 to 65 %]* in 2001 to [50 to 55 %]* in 2002.

(266) Furthermore, in all the countries with significant overlaps, a number of credible competitors remain present. In addition to Siemens which will be the number two player in almost all the markets, Planmed, Hologic/Lorad, Philips, Giotto and Metaltronica will remain credible competitors in many of these countries. For example Hologic/Lorad had a significant market share in Belgium and is present in France, Greece and Spain, while Planmed has a significant market share in France and is present in Italy and Portugal. Finally, Giotto and Metaltronica have a significant presence in Italy.

Private/public customers and purchasing process

(267) The market investigation has shown that, contrary to patient monitors and C-arms, demand for mammography devices comes to a significant extent from private organisations. According to GE's sales data, almost [50 to 70* %] ([159]) of its customers over the last five years were private organisations. The same proportion is also true for the sales by Instrumentarium ([160]).

(268) Furthermore, the percentage of public/private demand differs in each Member State depending also on the existence of national screening programs and by national provisions allowing the involvement of private practitioners. For example, while in France private purchases account for almost [80 to 90 %]* of the market, in Italy [70 to 80 %]* of mammography devices are acquired by public hospitals ([161]).

(269) Contrary to public organisations, where equipment is mostly acquired through invitations to tender, private purchases do not require any tendering process. Even though some private practitioners may use tendering processes, most purchases are based on quotes provided by the local agent or the local distributor of the suppliers.

(270) Also for public organisations that are obliged to launch tenders to purchase expensive equipment such as mammography devices a local presence of the supplier or its distributor is necessary. It resulted from the market investigation that the choice for a given supplier is based on the principle of 'most economically advantageous' offer rather than on the 'lowest price' offer, price being one important factor in addition to specifications, quality, after-sale services and maintenance of the mammography device. Therefore, once the potential suppliers have responded to the invitation to tender, they may need to demonstrate the different features of the tendered equipment to the radiologist who is the relevant decision maker in the acquisition process ([162]).

([159]) Among GE's bids for which the distinction private/public is made, around [1 500 to 2 000]* were private and around [500 to 1 000]* public (for a total number of bids available of [2 500 to 3 000]*).

([160]) Among Instrumentarium's bids for which the distinction private/public is specified, [100 to 150]* were private and [0 to 50]* public (total bids available to the Commission: [300 to 400]*).

([161]) […]*

([162]) In the questionnaires sent to customers was required to indicate who makes the proposal to purchase and it came out that in all the countries this Decision is mostly taken by radiologists (90 % in France, 95 % in Spain, 72 % in Italy).

(271) The notifying party also argues that the market for mammography devices is a bidding market, where market shares cannot be considered a proxy for market power. In addition, the notifying party has submitted an analysis of win-loss data to corroborate their contention that GE/Instrumentarium's market shares do not accurately reflect and, in fact, overstate the competitive impact of the notified transaction.

(272) The market for mammography devices does not significantly differ from a standard differentiated product market. When products are procured through a tender process, customers' preferences are reflected in the technical specifications of the tender which, in turn, determine the number of eligible bidders. Customers have individual preferences for specific devices and would consider switching to another model only in response to a more or less significant price rise (relative to competitors). The relative closeness of substitution between the various products, even within one and the same relevant product market, thus forms an important parameter of competition in these markets and has an important influence on suppliers' market power. Market shares thus contain important information as they reflect real purchasing decisions by customers in a given year.

Closeness of substitution

(273) As for patient monitors and C-arms, the notifying party conducted a statistical analysis in order to assess the closeness of substitution of the merging parties using as a proxy how often Instrumentarium, in comparison with other competitors, has been recorded as the runner-up in bids where GE won ([163]).

(274) Siemens turns out to be the competitor that is reported as the runner-up to GE most often at the EEA level as well as in every country. At the EEA level, Siemens is the runner-up in [50 to 60 %]* of the tenders whilst Philips in [0 to 10 %]* and Instrumentarium, Planmed and Hologic/Lorad in [0 to 10 %]* of the cases. These results should nevertheless be considered cautiously since the distribution of tenders across the various countries does not reflect the relative size of the national markets.

([163]) The parties were able to gather the information necessary to carry out this type of analysis for [600 to 700]* tenders from 1998 through 2003. There are more than 15 observations in all countries (e.g. France: [300 to 400]*; Italy: [100 to 200]*; Germany: [0 to 100]*; the United Kingdom: [0 to 100]*; Spain: [0 to 100]*) but Ireland ([0 to 15]*).

(275) At the national level, Siemens is the most frequent runner-up with percentages ranging from [40 to 50 %]* (France) to [80 to 90 %]* (Belgium). In contrast, Instrumentarium has been recorded as the runner-up in proportions ranging from [0 to 10 %]* (Italy) to [30 to 40 %]* (Spain) of the cases. It is worth noting that, in some countries, Instrumentarium does not appear by far as the competitor that exert the strongest competitive constraint on GE. This is the case for example in France (Siemens: [40 to 50* %]; Planmed: [10 to 20* %]; Philips: [0 to 10* %]; Instrumentarium: [0 to 10 %]*), in Germany (Siemens: [70 to 80* %]; Philips [10 to 20 %]*; Instrumentarium: [0 to 10 %]*) or in the United Kingdom (Siemens: [80 to 90* %]; Hologic/Lorad: [0 to 10 %]* Instrumentarium: [0 to 10 %]*).

(276) Therefore, the analysis submitted by the notifying party tend to show that Siemens exerts a stronger competitive constraint on GE than Instrumentarium. This is also the case of other competitors at the national level.

Price impact

(277) In addition, the Commission has conducted its own analysis of the likely price effect of the merger, based on an extensive set of bidding data collected from the parties and the main competitors ([164]). The objective was to identify the effect that the joint presence of GE and Instrumentarium had on prices in past bidding rounds and, further, the price effect, if any, that the removal of Instrumentarium as an independent competitor would have.

(278) The results of this empirical assessment were that the presence of Instrumentarium as an independent bidder in the auction and the number of bidders does not appear to have had any systematic influence over the size of the discount offered by GE in its bids. In none of the models that the Commission estimated was the coefficient of the dummy variable capturing the presence of Instrumentarium in the auction statistically significant. Such findings hold irrespectively of how the discount is computed or its proxy and whether the key European markets are considered collectively or individually (where data permit) or whether the focus is on winnings bids only or all bids (i.e. winning and losing bids).

Conclusion

(279) In the light of all the above elements, general market features, market shares and economic analysis, the Commission considers that the acquisition will not lead to the creation or strengthening of a dominant position in the market for analogue mammography devices as a result of which effective competition would be significantly impeded in the common market or substantial part of it.

B. *Digital mammography*

Emerging market — potential competition

(280) Demand for digital equipment is expected to grow substantially as digital mammography is generally seen to offer better contrast resolution and other image characteristics that will improve the capability for an early detection of cancer and reduce errors in detection process (so called false-positive). It is expected that in 2004 this market will represent 40 % of the total revenues for mammography instruments, going up to 60 % in 2006. This growth is also expected to result from other benefits offered by the digital technology such as a lower radiation dose and other functions generally connected with digital technology, for example, the suitability of user software, digital transmission and storage of imaging. It is further anticipated that digital technology will bring about new applications, such as 3D (tomosynthesis) and combination with ultrasound. All these factors will introduce new elements into the competitive situation.

(281) In digital mammography, GE is the leading company having been the first to introduce a digital equipment three years ago. The notifying party acknowledges that it has a […]* however […]* ([165]). As there are no overlaps between the parties, the effects of the concentration in this market would arise from the reduction of potential competition because Instrumentarium has plans to enter this market.

(282) The market investigation has shown that all the actual suppliers of analogue mammography equipment are entering the digital market ([166]). In particular, Siemens, Hologic/Lorad and Fischer are already active in selling digital equipment, while Planmed, Giotto, Metaltronica have actively started marketing their digital appliances. All these companies have already made significant investments in R&D in the digital field in order to

([164]) That is: Siemens and Philips. Eventually, Philips' data set could not be used for the analysis because of the poor quality of the data.

([165]) […]*

([166]) Competitors' reply to the Commission's questionnaires on R&D in Mammography dated 28 May 2003.

achieve a comparable or superior product to that of GE. It is also expected that new competitors will enter the market, such as Sectra and Kodak.

(283) More generally, entry in this market has been favoured by companies offering digital appliances comparable to those used by GE, in particular detector plates. In fact, many producers are acquiring digital detectors from third companies such as Anrad, or by competitors such as Hologic/Lorad. In this context, it has also to be considered that other branches of radiography enjoy full field digital capability and that many fields of R&D are common to the radiological sector.

(284) Finally, the market investigation has shown that as far as R&D investments and achievements in the digital field are involved, Instrumentarium is generally not considered the most important and effective competitor to GE ([167]). In the 2002 Strategic Plan of Instrumentarium it is stated that […]* ([168]).

Conclusion

(285) Given the above elements, the Commission concludes that there is a sufficient number of actual and potential competitors that are in a position to compete with GE in the digital field also following the acquisition of Instrumentarium. The fact that many companies are currently entering the digital mammography market renders less likely the possibility that the merger between GE and Instrumentarium could reduce to a significant extent the actual or potential competition in this market or limit innovation in the digital field.

(286) In the light of these elements, the Commission considers that the acquisition of Instrumentarium will not lead to the creation or strengthening of a dominant position in the market for digital mammography as a result of which effective competition would be significantly impeded in the common market or substantial part of it.

B. ***Vertical effects — Serious doubts due to Foreclosure of the Patient Monitors and CIS Markets***

1. **Introduction**

(287) Apart from the horizontal effects in the market for perioperative monitors identified above, the Commission also identified serious doubts as to the compatibility of the concentration, as originally notified, in that it would be likely to have significant vertical effects on the markets for anaesthesia machines, perioperative and critical care patient monitors and Clinical Information Systems (CIS). The vertical effects of the concentration would be primarily due to Instrumentarium's significant market power in the 'upstream' market for anaesthesia delivery machines and the technical interface (the need of the various devices to be integrated mechanically and/or exchange data electronically) between anaesthesia machines, perioperative and critical care monitors and CIS (areas in which the merged entity would be active). Such vertical concerns were also recently found by the Commission in its Article 8(2) decision in the Siemens/Draeger case ([169]) which presents similar characteristics with the present case.

(288) Concerns were expressed that the merged entity would be able to prevent competing manufacturers of patient monitors, anaesthesia machines and CIS from having effective access to the merged entity's anaesthesia machine equipment, patient monitors and CIS systems and could thus result in foreclosure effects and hence higher prices and reduced choice for hospitals.

(289) It should be noted from the outset that, following the communication of the Commission's serious doubts in the Article 6(1)(c) decision initiating proceedings in this case, the parties offered a commitment in order to dispel the Commission's serious doubts relating to the abovementioned vertical issues. The commitment was submitted formally on 11 June 2002 whilst the in-depth investigation was on-going. This commitment appeared to eliminate the serious doubts relating to the vertical issues and was therefore market tested in order to assess its viability and effectiveness and was further improved by the notifying party and re-submitted in a revised version on 4 July and then on 24 July 2003 as part of a revised package of commitments. In the light of the positive market test results and its assessment, it was concluded that the commitment was sufficient to eliminate the serious doubts relating to vertical issues in this case. As a result, no objections were raised as far as those vertical issues were concerned.

([167]) Competitors' reply to the Commission's questionnaires on R&D in Mammography dated 28 May 2003.

([168]) Instrumentarium Diagnostic Imaging — Strategic plan 2002.

([169]) See case No COMP/M.2861 — Siemens/Drägerwerk/JV (not yet published), point 149.

2. **Background information**

(290) The ability of the merged entity to foreclose would primarily arise from (i) its significant market power in anaesthesia machines and (ii) the technical interface between anaesthesia machines, monitors and CIS which requires cooperation between the anaesthesia machine manufacturer, the patient monitor manufacturer or CIS supplier.

(i) *Instrumentarium's market power in the upstream market for anaesthesia delivery machines*

(291) Anaesthesia machines, like other items of critical care equipment, are highly differentiated products with anaesthetists' preferences playing a key role in the choice of a clinic's anaesthesia equipment. As the Commission found in the Siemens/Draeger decision ([170]), customers have as a rule a preference for a specific item of equipment and would consider switching to a competing product only in the event of a fairly large price increase compared with the competition. Given the differentiated nature of the product in question and the fact that capacity restrictions are, on the other hand, of only minor importance to suppliers' decisions on prices and volumes, market shares provide a starting point from which to determine the relative market positions of the various competitors from the customer's point of view ([171]).

(292) In order to assess the market power of Instrumentarium and its rivals in the anaesthesia machine market, the Commission looked first at the market shares of the various suppliers and then at other factors such as barriers to entry, switching costs, the differentiation of the products in question and customer preferences. The Commission based its findings on data provided by the parties, independent studies and the results of its market investigation. The Commission also had regard at its findings in the Siemens/Draeger decision where a similar analysis was performed.

(293) It is widely acknowledged that the anaesthesia machine market is highly concentrated both at an EEA and national level. Instrumentarium (Datex Ohmeda), Draeger, and to a much lesser extent Siemens, are the only suppliers with significant EEA-wide activities. An independent study by Frost and Sullivan ([172]) (the F&S Anaesthesia Report 2001) puts Instrumentarium and Draeger on a par estimating their market shares at 38 % and 39 % respectively on an EEA basis. Apart from the two leading suppliers, there is also a number of suppliers such as Blease, Dameca, Penlon, Samed, Siare, Taema and Temel (Others) which have market shares in only a small number of Member States. At European level, the largest of these niche suppliers have market shares of 3 % or less, according to the estimates by Frost & Sullivan.

(294) The market shares in the anaesthesia delivery machine market in the EEA and individual EEA countries, as provided by the parties in their notification, can be seen in the table below:

*Table 16*

**Anaesthesia delivery machines — National market shares**

*(%)*

| 2002 by value | EEA | EEA ([173]) | A | BE | DK | DE | ES | FIN | FR | GR | IRL | IT | L | NL | PT | SW | UK | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Instrumentarium | [30-40]* | [40-50]* | [50-60]* | [50-60]* | [0-10]* | [0-10]* | [40-50]* | [40-50]* | [20-30]* | [60-70]* | [60-70]* | [40-50]* | [40-50]* | [40-50]* | [50-60]* | [50-60]* | [40-50]* | [30-40]* |
| Dräger | [30-40]* | [20-30]* | [30-40]* | [30-40]* | [0-10]* | [70-80]* | [40-50]* | [30-40]* | [40-50]* | [10-20]* | [0-10]* | [20-30]* | [40-50]* | [40-50]* | [20-30]* | [10-20]* | [10-20]* | [30-40]* |
| Siemens | [10-20]* | [0-10]* | [0-10]* | [0-10]* | [0-10]* | [10-20]* | [0-10]* | [0-10]* | [0-10]* | [10-20]* | [0-10]* | [20-30]* | [20-30]* | [0-10]* | [20-30]* | [10-20]* | [0-10]* | [30-40]* |
| Others | [10-20]* | [20-30]* | [0-10]* | [0-10]* | [80-90]* | [0-10]* | [0-10]* | [20-30]* | [20-30]* | [20-30]* | [30-40]* | [10-20]* | [0-10]* | [10-20]* | [0-10]* | [10-20]* | [30-40]* | [0-10]* |

*Source*: the parties ([174]).

([170]) Point 125 of Decision in case COMP/M.2861 — Siemens/Drägerwerk/JV.
([171]) Points 72-74 of Decision in case COMP/M.2861 — Siemens/Drägerwerk/JV.
([172]) Frost and Sullivan, European Anaesthesia and Respiratory Equipment Markets Report, 2001 'F&S Anaesthesia Report 2001'.
([173]) Excluding Germany.
([174]) Provided in the Notification.

(295) In addition to the above figures provided by the parties which, it should be noted, do not appear to contradict the findings of Frost and Sullivan at least on an EEA level, the Commission performed an exercise of reconstructing market shares on the basis of information it received through its market investigation ([175]). The table below relies on figures communicated by the parties, Siemens, and Draeger concerning their own turnover. The market shares of the remaining competitors are based on the data communicated by the parties in their notification ([176]).

*Table 17*

*(%)*

| 2002 by value | EEA | EEA ([177]) | A | BE | DK | DE | ES | FIN | FR | GR | IRL | IT | L | NL | PT | SW | UK | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Instrumentarium ([178]) | [25-30]* | [35-40]* | [25-30]* | [50-55]* | [0-5]* | [5-10]* | [45-50]* | [25-30]* | [20-25]* | [25-30]* | [50-55]* | [35-40]* | - | [45-50]* | [30-35]* | [60-65]* | [40-45]* | [45-50]* |
| Dräger ([179]) | [45-50]* | [30-35]* | [50-55]* | [35-40]* ([180]) | [50-55]* | [85-90]* | [40-45]* | [45-50]* | [45-50]* | [35-40]* | [5-10]* | [30-35]* | - | [30-35]* | [15-20]* | [5-10]* | [20-25]* | [45-50]* |
| Siemens ([181]) | [5-10]* | [5-10]* | [15-20]* | [5-10]* | [0-5]* | [0-5]* | [0-5]* | [10-15]* | [10-15]* | [25-30]* | [15-20]* | [15-20]* | - | [0-5]* | [40-45]* | [15-20]* | [0-5]* | [0-5]* ([182]) |
| Others | [15-20]* | [20-25]* | [0-5]* | [0-5]* | [40-45]* | [0-5]* | [0-5]* | [15-20]* | [15-20]* | [5-10]* | [25-30]* | [10-15]* | - | [15-20]* | [0-5]* | [15-20]* | [35-40]* | [5-10]* |

*Source*: Commission findings and information provided by the parties.

(296) The above tables show that Instrumentarium is one of two market leaders in anaesthesia delivery machines with an EEA market share, according to figures provided by the parties of at least […* %] (30 to 40 % on the basis of the Commission's reconstruction) (sales of EUR[…]*) with Draeger having an EEA market share of […* %] (30 to 40 % on the basis of the Commission's reconstruction]* (sales of […]*). Almost […]* of Draeger's sales are achieved in Germany, the company's home market. If German sales are excluded, on the basis of the parties' data, Instrumentarium achieves a market share of […* %] (30 to 40 % on the basis of the Commission's reconstruction) and Draeger only […]* % (30 to 40 % on the basis of the Commission's reconstruction) on an EEA basis with respective sales of EUR […]* m and […]*. According to the above tables, at national level, Instrumentarium's position on the market for anaesthesia delivery machines reaches levels indicative of a dominant position in a number of Member States where Instrumentarium has high market shares such as Belgium, Ireland, Sweden (above 50 %), Spain, the Netherlands and the United Kingdom (above 40 %).

(297) The above market shares should be considered in the light of additional relevant factors such as the existence of high entry barriers (market entry requires considerable sunk costs including a well developed distribution and service network as well as close commercial relations with hospitals and investment in R&D ([183])), the strong preference of customers for

([175]) A similar exercise was performed in the Siemens/Draeger proceedings (see Siemens/Draeger decision at point 116). Due to the inability to obtain data from all competitors in the market, the reconstruction of market shares in the Siemens/Draeger decision remained incomplete (see point 116 in fine of the Siemens/Draeger decision). Therefore, a new reconstruction of market shares in the context of the current case was performed. It should, nonetheless be noted, that, according to the figures in the Siemens/Draeger decision, Instrumentarium would be the leading company in at least Ireland, Sweden and the United Kingdom. Draeger was found to be presumptively dominant in the following EEA countries (see point 153): Denmark, Germany, Finland, France, the Netherlands and Norway.

([176]) Many smaller competitors were unable to provide precise turnover data on a national basis.

([177]) Excluding Germany.

([178]) Form CO.

([179]) Business secret-confidential information: Reply to question 15, sent on 28 April 2003 referring to Answer No 2 of Article 11 request dated 27 January 2003, sent on 4 February 2003 (M.2861 Siemens/Draeger).

([180]) Including Luxembourg.

([181]) Business secret-confidential information: Answer to Question 15 of Article 11 request, dated 11 April 2003 sent on 28 April 2003.

([182]) No data provided for Norway.

([183]) For example, Instrumentarium spent EUR 66 600 000 million on research and development in 2001 representing 7 % of net sales for the anaesthesia and critical care business. (See Instrumentarium's annual report 2001, p. 19). The F&S Anaesthesia Report (2001) reports that 'the market is fairly concentrated' and that there is 'difficulty for new players to enter the market', p. 4-13.

manufacturers with a proven track record and well-established products, the differentiated nature of the product and its critical importance for the life of the patient which increases the reluctance of doctors to switch suppliers of machinery, and the high brand recognition and quality of Instrumentarium's anaesthesia machines ([184]).

(298) In the light of the above information, it appears that Instrumentarium enjoys a significant degree of market power over its customer base throughout the EEA. The high market shares and the nature of the market (high concentration, high barriers to entry, differentiated nature of the products and strong consumer preferences), confirm the existence of serious doubts that Instrumentarium enjoys significant market power in at least the following national markets Belgium, Ireland, Sweden (above 50 % with rivals being significantly smaller), and the United Kingdom (approximately [40 to 50 %]* with rivals being significantly smaller).

ii) *Interoperability between anaesthesia machines, monitors and CIS*

(299) Anaesthesia machines and perioperative monitors are used in the same area of the hospital, the perioperative area. As the parties state in the notification 'whilst a patient is undergoing anaesthesia, it is necessary to monitor the patient's vital signs to ensure his or her safety. This monitoring is undertaken by a Perioperative patient monitor' ([185]). Given this use, anaesthesia machines and perioperative monitors are complementary products as both products are needed in order to perform surgery on a patient. The same applies to CIS systems which, without being necessary, are also used in conjunction with both anaesthesia machines and perioperative and critical care monitors in a number of EEA hospitals. Due to this simultaneous use in the same department of the hospital, there are commercial links in the marketing of those products to hospitals. The market investigation has shown that anaesthesiologists play an important role in influencing or actually deciding on purchases of both anaesthesia machines and perioperative monitors and, to a more limited extent, critical care monitors.

(300) In addition to the complementary use of the two products there is also a technical, vertical link or interface between anaesthesia machines and monitors. Even though both are necessary when a patient is undergoing surgery, the two products can be used completely separately, in the sense that the anaesthesia machine delivers gases to the patient and displays the delivery of gas on an anaesthesia display and the patient monitor connects via sensors to the patient and displays the patient's vital signs on the monitor display. However, as the market investigation shows, in practice, there is normally a connection between the two machines, either a mechanical (in the overwhelming majority of cases) or electronic connection or both. The market investigation also showed that cooperation by a device supplier such as an anaesthesia machine supplier is necessary so that independent suppliers of other devices such as patient monitors or CIS can integrate their devices mechanically or electronically with the anaesthesia machine.

Mechanical integration

(301) Mechanical integration, which is commonly used in EEA hospitals, requires that the monitor is mechanically integrated with the anaesthesia machine in that it stands on top of the anaesthesia machine (with clips and Velcro straps or mounting solutions) or is mounted onto the anaesthesia machine by means of a mobile 'side arm'; the latter configuration is increasingly popular due to the popularity of flat panel displays which are integrated in this way ([186]). Many different mechanical configurations are possible depending on the anaesthesiologist's needs. The parties' patient monitors and third-party patient monitors are mechanically integrated with Instrumentarium or other suppliers' anaesthesia machines.

(302) The reason for the desirability of mechanical integration is put clearly in a third party submission which explains that 'Because space in the operating room is limited and

([184]) The overwhelming majority of respondents to the Commission's survey (anaesthesia questionnaire) stated that Datex-Ohmeda had 'high' specifications and 'high' quality respectively. Instrumentarium's leadership in anaesthesia machines vis-à-vis its smaller competitors is also evidenced by Instrumentarium's own documents. Instrumentarium's annual report of 2001 states that 'with sales of EUR 714 million, it became clear during the year that we are now the largest supplier in the world of anaesthesia and critical care equipment and solutions. This position is highly advantageous for us in that it allows us to benefit from economies of scale in many areas, and hence it allows us to take carefully calculated risks in developing new businesses.' Instrumentarium's leadership is such that it is 'the only company in the world to be able to offer a broad family of anaesthesia machines for varying applications'. See Instrumentarium Annual Report (2001), pp. 4 and 8.

([185]) Form CO, p. 121.

([186]) Instrumentarium's response to the Article 11 request dated 9 April 2003, Question 14: 'new monitors have an incorporated flat panel and LCD displays, which make it possible to mount monitoring elements on a side arm'.

anaesthesiologists need constant access to the patient monitor and the anesthesia machine, a monitor must be securely attached to the anesthesia machine in a manner and location — "configuration" — which is fully compatible with the anesthesiologist's workplace requirements ([187])'. The F&S Anaesthesia Report (2001) also concludes that 'the market is moving towards a greater level of integration and computerisation which means a greater integration between the various equipment' ([188]). Documentation submitted by third parties shows that there is clear demand for mechanical integration solutions by hospitals. This is also evidenced by the existence of dedicated mounting solution suppliers such as the major US mounting solutions supplier, GCX.

(303) Despite the parties claims that mechanical integration is very simple, third party documents and the parties' own internal documents show that mechanical interfacing is more complicated and requires cooperation between the anaesthesia machines supplier, monitor supplier and mounting solutions supplier ([189]). Different configurations of monitor-anaesthesia machine are tested and validated according to international standards. In their responses to the Commission's requests for information, both parties list relevant standards ([190]) such as the IEC 601-1. Whilst such standards are not obligatory, they are considered 'best practices' and suppliers conform to them as there is increasing customer awareness and demand. Information provided by the parties, third party monitor suppliers and mounting solutions suppliers shows that tests are indeed habitually performed and the suppliers certify the validity of a given configuration before it is sold commercially to customers. GE acknowledges the need for cooperation by stating that 'mechanical integration is facilitated by using standard patient monitor mounts physically attached to the anaesthesia machine. The design is a cooperative effort between GE, the anaesthesia machine company and a manufacturer of patient monitor mounting systems' ([191]). A third party stated that 'The development process requires access to detailed product specifications and other information available only from the manufacturers of both the monitor and the machines that are to be interconnected' ([192]). Instrumentarium also provided information showing that cooperation between the suppliers of the devices is necessary for an effective, validated mechanical integration; Instrumentarium claims that it has provided such cooperation in the past ([193]).

Electronic integration

(304) In addition to mechanical integration, electronic integration between the anaesthesia machine and monitor is used by a number of hospitals. Electronic integration involves exchange of data between the anaesthesia machine and monitor or input of those devices' data into a CIS ([194]) or even a full integration of the anaesthesia machine, patient monitor and possibly CIS in one single device (such as Instrumentarium's ADU).

(305) Electronic integration of anaesthesia machines and monitors or those devices with CIS systems appears to offer a number of significant clinical and administrative advantages to hospitals. Data generated by the

([187]) Submission by third party dated 24 March 2003, p. 2.

([188]) F&S Anaesthesia Report (2001), p. 4-31.

([189]) A number of competitors stated that the completion of a validly tested configuration requires significant time of approximately six months and in some cases well over six months. (Third party responses dated 24 April 2003, 14 May 2003, 30 April 2003 and in particular third party response to Article 11 letter dated 11 April 2003, Question 4.) One third party stated that the minimum information and support required to achieve mechanical integration was 'Specification of the maximum weight that can be borne by the wheels; Specification of the channels and the weight they support, if channels are available; Location of fixing points for mounting hardware and their specified intended use; Information about possible places to adapt mounting solutions for the patient monitors; Information about all the possible set-ups, including all parts required in order to perform tests according IEC and UL; contact person for technical questions'.

([190]) Including, for example, the following standards: EN 740: 1998 and EN 12218: 1998 + A1: 2002 (harmonised standards related to medical devices under Council Directive 93/42/EEC); EN 740: 1998 (European standard relating to anaesthetic workstations).

([191]) GE's response to the Commission's Article 11 request for information dated 9 April 2003, p. 4.

([192]) See third party submission of 24 March 2003, p. 2.

([193]) In its response of 18 June 2003, Instrumentarium discussed its cooperation with monitor suppliers and mounting solution suppliers: 'it is important to note that the latest machine from Datex-Ohmeda, the S/5 Avance, due out in late June 2003, already has mounting solutions for Philips, Siemens, GE, Spacelabs and Datex-Ohmeda monitors developed and tested by GCX. This is due to Instrumentarium's proactive collaboration with GCX to develop the mounts. […]*. Instrumentarium worked with the third-party mounting solution provider before the product launch.'

([194]) Electronic connection between anaesthesia machines and monitors can be achieved by means of small interface devices in which the machines are plugged. Each manufacturer has created its own solution (e.g. GE's 'Octicomm' or Philips' 'VueLink' device). Such physical components may be necessary for achieving an interface connection between an anaesthesia machine and patient monitor.

anaesthesia machine can be displayed direct and in 'real-time' ([195]) on the monitor's display in addition to appearing on the anaesthesia machine display. The market investigation showed ([196]) that those hospitals using electronic integration value the ability of displaying data generated by the anaesthesia machine and monitor in a single display as this enables the doctor to address the patient's needs more effectively. At the same time, the keeping of patient's clinical records is effortless, as data is generated automatically.

(306) Despite the parties' claims that electronic integration is of limited use in the EEA, the Commission found that a significant number of hospitals responding to its market investigation actually interfaced their anaesthesia machines and monitors electronically. An additional number of hospitals, replied that they had plans to use CIS electronic interfaces in the next two to three years. For this reason major monitor suppliers offer monitors that are already capable of electronic integration. Instrumentarium's electronically integrated ADU machine represents approximately 25 % of Instrumentarium's total annual sales of anaesthesia machines ([197]). A third-party monitor supplier claimed that [20 to 25 %]* of its monitor sales included interface modules in 2001. GE's 'dear customer' letter of 4 April 2003, sent to all its customers on the occasion of its announcement of the bid for Instrumentarium, evidences GE's commitment to provide electronic integration.

(307) As acknowledged by the parties, electronic integration requires the cooperation of both the monitor and the anaesthesia machine supplier as the output specification, protocol and other technical information needs to be known to a patient monitor manufacturer for an interface to be created. The parties have, however, claimed that Instrumentarium (and other anaesthesia machine manufacturers) practice an 'open architecture' policy which enables other monitor manufacturers to develop quickly and at low cost the software needed for the anaesthesia machine and monitor to interface electronically. For example, Instrumentarium's specifications are publicly available in its machines' service manuals or on the internet ([198]).

(308) Given that interfaces are proprietary, cooperation between the various suppliers appears to be necessary for a seamless exchange of electronic data between an anaesthesia machine and monitor. Third party suppliers of patient monitors produced documentation showing that efforts to produce electronic interfaces have not always met with effective cooperation by anaesthesia machine suppliers ([199]). A number of hospitals responding to the Commission's market investigation stated that they had faced problems of connectivity in the past and concluded that they needed assistance from the suppliers in order to achieve a seamless electronic interface ([200]). GE acknowledges the need for cooperation by stating that 'developing, verifying and validating the protocol interpreter software generally requires cooperation between GE and the device vendor. The development process occurs in the following way. Based on an informal partnership with the anaesthesia machine vendor, the vendor provides protocol and operation manuals and technical assistance, and typically loans equipment (or provides for the use of equipment at their facilities) to develop the interface software. The monitor manufacturer defines the requirements, writes the software then performs the data mapping, as well as its verification and validation' ([201]). In response to a direct question by the Commission on the ability of third party suppliers to create interfaces without cooperation by the anaesthesia machine supplier, Instrumentarium also acknowledges that this would not be possible ([202]). It is also to be noted that effective electronic integration requires adaptation to the relevant interfaces when the supplier of the anaesthesia machine upgrades or modifies the machine's protocol and output specifications.

([195]) 'Real-time' transmission of data means that data generated by the anaesthesia machine are displayed alongside physiological data measured by the patient monitor on the patient monitor's display. This makes it easier for the physician to assimilate information on the patient's actual condition at any given point in time and to adjust the therapy accordingly.

([196]) A significant number of respondents stated specific advantages arising from electronic integration. Results of responses to the Commission's questionnaire to customers show that a very large number of respondents stated convenience of displaying data on a single display and producing automated record as the main advantages of such electronic integration.

([197]) [25 to 30 %]* of sales in 2000 and [20 to 25 %]* of sales in 2002.

([198]) See Instrumentarium's response to question 28 of the Commission's Article 11 request for information dated 9 April 2003.

([199]) Third party response to Question 15 of the Article 11 request for information dated 11 April 2003 providing information on electronic interoperability problems.

([200]) Customers were asked to state whether they had faced difficulties in electronic connectivity and whether it was easy to connect a monitor and anaesthesia machine electronically without assistance from the supplier. A large number of customers responding to this question states that they had faced difficulties and that it was not easy to connect without supplier assistance.

([201]) GE's response to the Commission's Article 11 request for information dated 9 April 2003, p. 6.

([202]) See Instrumentarium's response to question 29 of the Commission's Article 11 request for information dated 9 April 2003 where it states that […]*. […]*.

Links between perioperative and critical care monitors and CIS-Standardisation

(309) Finally, standardisation (the need to use the same brand of devices throughout the various areas of the hospital) and increasing use of CIS systems and generally electronic connectivity of devices lead to an interface issue not only in the perioperative area but in the critical care area as well. A number of customers during the market investigation stated a number of standardisation benefits such as portability, no need to remove cables, training of staff, spare parts, compatibility with other equipment. Third party information also confirmed the existence of a standardisation trend. Standardisation advantages have been underlined by the European Society of Anaesthesiologists: 'In many hospitals across Europe, we see an increasing desire for standardisation of patient monitoring equipment across all acute care settings, since this offers the hospital benefits in terms of training, standardisation on cables and accessories, continuity of patient data and equipment maintenance' ([203]).

(310) Whist the parties submitted that standardisation benefits are outweighed by the disadvantage of being tied to a single supplier ([204]), they acknowledge that such benefits exist including 'maintenance, in-house knowledge, system up-time, training, spare parts, suppliers one partner and solution provider, easy to improve the total system performance' ([205]). In addition, both parties acknowledge the desirability and trend towards the creation of a digital hospital environment with seamless and effective connectivity of various devices and the use of CIS in the perioperative and critical care areas. GE internal documents provided as an Annex to the Notification speak about the benefits of electronic connectivity throughout the OR with the aim being to create a 'digital cockpit for the OR' by offering 'device integration, information convergence: monitor to anaesthesia, IT systems and equipment, OR and enterprise'. GE also speaks of a trend for 'tighter integration with monitoring [and anaesthesia machines]*' and 'integration into CIS being the next step' ([206]).

Conclusion on interfacing of relevant devices

(311) It is therefore reasonable to conclude that there appears to be an ever increasing need for anaesthesia machines and monitors to interface mechanically and electronically with one another as well as with CIS ([207]). It is also reasonable to conclude that continued cooperation between anaesthesia machines suppliers and independent suppliers of patient monitors or CIS appears to be necessary in order to allow those independent suppliers to integrate their products mechanically and/or electronically with Instrumentarium anaesthesia machines and hence to meet their customers' increasing need for interoperability. Integration of devices such as anaesthesia machines and monitors with CIS systems appears to be a desirable aim for hospitals in the EEA and that, in the light of this integration, seamless connectivity of devices is required for effective digitalised environments in the perioperative and critical care areas of the hospital.

3. **Serious doubts that the merger may lead to foreclosure effects**

(312) The above information led the Commission to find serious doubts as to the compatibility of the concentration with the common market on the basis that the merged entity would have the ability to foreclose its rivals. This ability would arise from the merged entity's significant market power in anaesthesia machines and the need for cooperation between the anaesthesia machine manufacturer and the patient monitor manufacturer or CIS supplier ([208]) as explained above.

(313) If Instrumentarium so wishes, it can simply withhold its cooperation or, more likely, engage in

([203]) Professor […]*, Industrial Liaison Officer, European Society of Anaesthesiologists quoted in a third party's response to Question 17 of the Article 11 request for information of 11 April 2003.

([204]) The market investigation also showed that a significant number of customers values the ability to 'mix and match'.

([205]) See Annex 17 to GE's response to the Article 11 request of 9 April 2003, presentation 'System Selling Go'.

([206]) See Annex 5.4 to the Notification, GEMS presentation on the rationale of the Instrumentarium deal.

([207]) A significant percentage of respondents to the Commission's market investigation stated that they had plans to connect their anaesthesia machines and monitors to CIS systems.

([208]) As noted above, the parties do not deny that cooperation is necessary for effective and seamless mechanical and electronic integration nor that an anaesthesia machine supplier would have the ability to withhold necessary cooperation or to degrade cooperation.

subtler ways ([209]) of degrading cooperation thus making it difficult for independent anaesthesia machine or monitor manufacturers or CIS suppliers to connect their devices or systems to those of the merged entity thus raising their costs.

(314) When it initiated proceedings, the Commission also expressed serious doubts as to the compatibility of the concentration with the common market on the basis that the merger could change or enhance the incentives of the merged entity to use its ability to foreclose contrary to the parties' claims that the merger would not change anything in either the anaesthesia or the patient monitors markets compared to the incentives of Instrumentarium (an already vertically integrated company) before the merger.

(315) It appears that, despite the parties' claims that such incentives could be excluded on the basis of limited extend of integration of the various devices, mechanical interoperability of anaesthesia machines and monitors is a relevant requirement for a significant number of hospitals due to the limited space of the OR and the need for ergonomics and patient safety. Even electronic interoperability, which is not as prevalent in the EEA today, is used by a significant number of customers with an even greater number of customers stating that they had plans of introducing electronic connectivity in the next two to three years.

(316) In addition, it is to be noted that the merged entity would enjoy significant market power in anaesthesia delivery machines which could give GE/Instrumentarium the ability to exploit its anaesthesia market power, as described above, to the great benefit of its own perioperative monitors business as well as critical case monitor business and CIS. The merged entity's overall position in products for the perioperative and critical care areas of the hospital would be stronger than that of Instrumentarium alone before the merger ([210]). In patient monitors (combined sales of perioperative and critical care monitors) the merged entity would be the leading company with a market share of [30 to 35* %]. In critical care monitors, the merged entity's market share would […]* from [10 to 15 %]* to [25 to 30 %]* at an EEA level ([211]) exceeding [30 to 35 %]* in eight EEA countries (Austria, Finland, the United Kingdom, Greece, Ireland, Netherlands, Spain, Sweden and Norway). In CIS, the merged entity would be able to combine its various solutions and to offer leading CIS

([209]) There are many ways in which GE/Instrumentarium could attempt to achieve such foreclosure. Refusal of cooperation or 'closure' of architecture could be an extreme measure that would immediately deprive independent monitor manufacturers from being able to sell monitors to customers using Instrumentarium anaesthesia machines. According to third party submissions a variety of more subtle and difficult to detect ways could be employed including for example frequent modifications and upgrades resulting in constant need for cooperation which the merged entity could delay or refuse, manipulation of the output to optimise performance when GE/Instrumentarium monitors are connected rather than another manufacturer's monitor; use of more proprietary protocols; provision of inferior connectivity to CIS systems; frequent changes in software code resulting in problems in the interoperability of rival monitors; manipulation of machine mounting brackets to reduce rivals' mechanical integration; refusal to loan equipment or cooperate in testing equipment for validation in accordance with international standards; delayed cooperation preventing competing manufacturers from showing their products in a timely way at important international trade fairs; etc. Third party and the parties' internal documents reveal certain cooperation problems with interoperability in the past.

([210]) In its Annex 5.4 documents (Annex to the Notification), GE explains that one of the main reasons for the Instrumentarium deal was to combine the respective strengths of Instrumentarium and GE in the perioperative and critical care areas: 'Continuing GEMS IT commitment to clinical excellence at the point of care with a corresponding expansion of parameter base and core competencies'; 'expand presence in the perioperative area (Datex-Ohmeda: Global Leader)', 'significantly enhance the perinatal care offering', 'provide a significantly strengthened position and platform for growth in Europe', 'expands non-invasive cardiology line-up', 'provides additional building blocks for the convergence of devices and IT systems'.

([211]) [20 to 25 %]* taking into account the horizontal divestiture offered by the notifying party.

solutions to perioperative and critical care customers ([212]).

(317) As regards the possible strategy of the merged entity, it should be noted that, even before the merger, it appears that Instrumentarium attempted to follow a strategy whereby it would 'leverage its franchise as the global leader in the anaesthesia market to become the global leader also in the related market for critical care systems and equipment' ([213]). However, before the merger, Instrumentarium would appear to have had certain disadvantages which would limit the success of a potential foreclosure strategy and which have resulted in an acceptance of an 'open' architecture policy by Instrumentarium ([214]) at least as far as technical interoperability is concerned. Instrumentarium's product range in critical care equipment was relatively narrow ([215]). Hospitals (especially those wishing to standardise their monitors and CIS across the perioperative and critical care areas) had therefore a stronger incentive to insist on a 'mix-and-match' policy in order to be able to obtain the monitor they preferred and to be able to use it with their anaesthesia machine of choice. As a result, Instrumentarium was only to a more limited extent able to use its market power in order to impose closed architecture policies or to increase its sales of critical care monitors and CIS. Instrumentarium's business strategists had acknowledged those problems ([216]). As suggested by internal documents, one commercial reason behind GE's acquisition of Instrumentarium was to exploit the merged entity's complementary strong positions in the perioperative and critical care areas.

(318) In the light of the above and in particular the strength of the merged entity in anaesthesia machines and the integration of devices and standardisation trends identified above the Commission therefore expressed serious doubts as to the compatibility of the concentration with the common market as it appeared that, by closing the architecture of its devices, the merged entity would have the ability and possibly the incentives to pursue a foreclosure strategy in the whole perioperative and critical care hospital spectrum: using its strength in anaesthesia machines to foreclose rivals and dominate or strengthen its dominance in anaesthesia machines, perioperative monitors, critical care monitors and CIS.

(319) Following the Commission's Article 6(1)(c) decision the parties claimed that the abovementioned serious doubts would not be confirmed due to a number of arguments ([217]) (discussed to some extent above) and in

([212]) GE is active in the critical care and perioperative areas with its 'Centricity Critical Care' and 'Centricity Perioperative' products. Apart from the parties, the other main medical sector CIS suppliers are Siemens and Philips. Instrumentarium is present in the same care areas through its 'Deio' and 'Clinisoft' products. The notifying party has not provided market shares in CIS claiming that this is a fragmented, nascent and growing market. The notifying part, in the notification, also claims that their market share would remain below [25 to 30* %]. In subsequent responses both parties stated that their market share would be minimal and that, given the nascent nature of the market, market share calculation is not meaningful. Information collected by the Commission during its investigation by the main market players shows that in terms of 2001 and 2002 sales GE/Instrumentarium would be larger than Philips and Siemens and slightly smaller than Philips but much larger than Siemens in terms of installed base In addition, in its web site GE speaks of its 'leadership' in CIS: 'With over 700 Clinical Information Systems world-wide, GE Medical Systems Information Technologies proven leadership means we can deliver highly evolved systems for all your perinatal and critical care applications.' Instrumentarium also claims that its CIS product 'Deio is a world leader in the management of perioperative and critical care information through solutions that allow healthcare professionals offer better quality of care while conserving resources' (See www.deio.com).

([213]) This claim was included not only in Instrumentarium's internet site and in strategy documents of marketing advisers but also in Instrumentarium's Annual Report of 2001.

([214]) In its response of 18 June 2003, Instrumentarium states that it 'has consistently supported open interfacing of anaesthesia machines and monitors. To support this effort, the company's long-standing policy has been to publish and support interfaces to its machines and monitors'.

([215]) In its response of 18 June 2003, Instrumentarium explains that it had certain limitations in its product range, parameter capabilities and networking capabilities that did not allow it to adopt a standardisation strategy contrary to the major players such as GE, Philips and Siemens: […]*

([216]) In internal presentations submitted in response to the Article 11 questionnaire of 9 April 2003, Instrumentarium states that […]*. (see slide 4 of the presentation 'ICU outside US strategy plan' of 18 August 1999). In its response of 18 June 2003, Instrumentarium explained that […]*.

([217]) See Notification, p. 122 *et seq*. and the parties' letter of 28 April 2003 with comments to the Article 6(1)(c) decision in which they already suggested their willingness to offer a commitment to dispel the expressed foreclosure-related serious doubts. See also the parties' economic advisers', RBB, paper of 19 June 2003.

particular the lack of incentives ([218]) of the merged entity to engage in foreclosure strategies on the basis that interfacing would not be an issue for the majority of patient monitor sales as electronic connectivity is not prevalent in the EEA, that Instrumentarium had been following an open architecture policy and the merger would not change the dynamics of competition in either the market for anaesthesia machines or perioperative monitors and that a foreclosure strategy would not be commercially reasonable or successful given that customers would resist it by turning to rivals which could satisfy their needs and which could engage in similar counter-strategies.

(320) However, in the light of the serious doubts as to the compatibility of the transaction with the common market due to the foreclosure issues identified in the 6(1)(c) decision, the notifying party submitted commitments in order to dispel the abovementioned serious doubts. This commitment appeared to eliminate the serious doubts relating to the vertical issues and was therefore market tested in order to assess its viability and effectiveness and was further improved by the notifying party and re-submitted in a revised version on 4 July and then on 24 July 2003 as part of a revised package of commitments. In the light of the positive market test results and its assessment, it was concluded that the commitment was sufficient to eliminate the serious doubts relating to vertical issues in this case. As a result, no objections were raised as regards the above-mentioned vertical issues.

## V. **COMMITMENTS**

### 1. *HORIZONTAL COMMITMENTS*

(321) In order to remove the abovementioned horizontal competition concerns on the market for perioperative monitors, GE has submitted a package of commitments. The commitments are attached to this Decision as Annex I.

([218]) The parties deny that Instrumentarium has market power in anaesthesia machines. This argument has been discussed above in the section describing Instrumentarium's market power in anaesthesia delivery machines in specific national countries where its market share exceeds 50 %. The parties do not deny that an anaesthesia machine supplier could 'close' the architecture of its machines or degrade interoperability and thus prevent or prejudice sales of rival patient monitor or CIS products that need to interface, mechanically or electronically, with anaesthesia machines.

#### 1.1. COMMITMENTS SUBMITTED TO THE COMMISSION

(322) As regards the market for perioperative monitors, the notifying party submitted on July 24 a package of remedies, based on the divestiture of Spacelabs (a division of Instrumentarium) in conjunction with a series of OEM supply agreements (Instrumentarium anaesthesia machines, Instrumentarium/Datex-Ohmeda perioperative monitor Cardiocap5 and Instrumentarium latest gas module model) aiming at making the divested business more appealing to potential purchasers and a more effective competitive force.

(323) The set of undertakings can be summarised as follows:

(a) ***Divested Business***

(324) Divestment of all assets, tangible and intangible (including proprietary know-how) and all businesses belonging to 'Spacelabs', a division of Instrumentarium, acquired by and incorporated into Instrumentarium in July 2002 and managed in conjunction with and through Datex-Ohmeda Inc. a fully owned subsidiary of Instrumentarium. The Spacelabs Divested Business comprises, *inter alia*, Datex-Ohmeda's Spacelabs medical manufacturing, distribution and research and development operations and sales channel operations for multi-parameter patient monitoring and associated equipment and services. The divested business is described in detail in Schedule 1 of the Undertakings and annexes thereto.

(b) ***OEM Supply agreements***

(325) As mentioned, the undertakings offered by GE include three OEM supply agreements aimed at rendering Spacelabs more competitive in the relevant market and thus allowing the purchaser of Spacelabs to be present as a more viable competitor in tenders requiring both monitors and other pieces of equipment as part of perioperative monitor 'systems'.

**The OEM supply agreement for anaesthesia machines**

(326) GE is committed to supplying on an OEM basis anaesthesia machines and related supplies, accessories and start-up kits, on a non-exclusive basis, to the purchaser of Spacelabs for the purpose of resale to

end-customers to whom the purchaser supplies perioperative monitors for sale, and for the purpose of allowing the purchaser to make combined perioperative monitor/anaesthesia machine bids and sales.

(327) The OEM supply agreement will be in force for a duration of five years and will allow the purchaser of Spacelabs to supply the relevant products within the territory of the EEA and all future EU Member States (all accession countries). Moreover, the agreement also provides that successor and upgraded versions of the current products shall be supplied under the same terms and conditions. The products shall be priced at substantially similar conditions as those offered to GE distributors. The agreement also includes the supply of spare parts for a duration of 10 years after the expiration of the agreement and the supply of maintenance and repair services by GE, upon request by the purchaser, at favourable conditions. This supply agreement is described in detail in Schedule 2 of the Undertakings.

**The OEM supply agreement for Cardiocap5/Gas monitor**

(328) GE is committed to supply the Cardiocap/5 perioperative monitors (including the gas monitors), and related supplies, accessories, leads and cables, to the purchaser on an exclusive basis. The agreement shall be in force for a duration of 10 years and will allow the purchaser of Spacelabs to supply the relevant products within the territory of the EEA and all future EU Member States (all accession countries). Moreover, the agreement also foresees that successor and upgraded versions of the current products shall be supplied under the same terms and conditions. The products shall be supplied at 'cost plus' pricing conditions, i.e. including GE direct production, distribution intellectual property and warranty and costs plus a margin of [20 to 30 %]*. The agreement shall also include the supply of spare parts for a duration of 10 years after the expiration of the agreement and the supply of maintenance and repair services by GE, upon request by the purchaser, at favourable conditions. This agreement is described in detail in Schedule 3 of the Undertakings.

**The OEM supply agreement for gas modules**

(329) GE is committed to supply to the purchaser of Spacelabs the Datex-Ohmeda Gas module. The agreement shall be in force for a duration of 10 years and will allow the purchaser of Spacelabs to supply the relevant products on a world-wide basis. Moreover, the agreement also foresees that successor and upgraded versions of the current products shall be supplied under the same terms and conditions. The products shall be supplied on pricing terms no less favourable than those offered to other third parties or, alternatively, on the basis of the same 'cost-plus' terms foreseen for the supply of Cardiocap5. The agreement shall also include the supply of spare parts for a duration of 10 years and the supply of maintenance and repair services by GE, upon request by the purchaser, at favourable conditions. This OEM agreement is described in detail in Schedule 4 of the Undertakings.

(c) ***Instrumentarium commitment***

(330) It has to be mentioned that, in addition to the undertakings submitted by GE, on 17 July 2003 Instrumentarium submitted a commitment (the Instrumentarium Commitment) which is reproduced in Annex III to this Decision. The purpose of the Instrumentarium Commitment is to ensure full compliance with the provisions of Section C and Section D of the Commitment text, as submitted by GE, also prior to the effective date ([219]), when such commitments will be assumed by GE. In practice, most importantly the Instrumentarium commitment will ensure the preservation of the viability and competitiveness of the divested business and the compliance with hold-separate and ring fencing obligations prior to GE effectively acquiring control of Instrumentarium. The Commission takes note of the Instrumentarium commitment. However, this commitment does not constitute a condition for clearance.

1.2. ASSESSMENT OF THE NOTIFIED CONCENTRATION AS MODIFIED BY THE UNDERTAKINGS

(331) In the framework of the market test on the proposed undertakings, the Commission contacted approximately 200 third parties, including major hospitals in all Member States, the parties' main competitors and prospective purchasers of the divested business. Many respondents put forward concrete and substantial suggestions for amendments to the package proposed by the notifying party with a view to improving the overall package and making the divested business a more viable competitor. The most substantial suggestions related to the duration and the geographic scope of the OEM supply agreements; the need to ensure timely access to successor and upgraded versions; the spare parts supply provisions; and the pricing terms and conditions.

([219]) As defined in the undertakings: 'Effective Date: the closing date as defined in the Combination Agreement dated 18 December 2002 between GE and Instrumentarium, whereby GE will acquire sole control of Instrumentarium.'

(332) The final package of undertakings, submitted on July 24 and described above, incorporates the bulk of the suggestions and comments made by third parties in the context of the market test. The undertakings in their final form thus meet the concerns expressed by third parties as regards the need to ensure the greatest possible viability and competitiveness of the divested business.

(333) The commitment relating to the divested business implies the transfer of all assets and activities belonging to Spacelabs. This company achieved, in 2002, global sales revenues of about EUR 180 000 000.

(334) In terms of product range, the divestiture of the Spacelabs' business will more particularly comprise Spacelabs' patient monitoring platform known as the Ultraview Care Network. The Ultraview Care Network Monitors includes a variety of models ([220]) and in particular, as confirmed by independent surveys ([221]), two high-end monitors which are equivalent to GE's high-end monitors (the Solars 9500 and 8000). Specifically, the Ultraview 1700 is Spacelabs' highest end patient monitor and is particularly suitable for use in high-end perioperative areas.

(335) The Spacelabs' UCN system also comprises various modules that are available to meet specific monitoring needs, including in the perioperative area (e.g the Bispectral Index Module; the capnograph and EEG monitoring modules). Options are also available to mix-and-match screen sizes, display types (CRT or flat-panel), and networks (stand-alone, hard-wired or wireless). Clinicians are therefore enabled to customise monitor operation to specific patient preference and needs. Spacelabs Ultraview Care Network also supports seamless data acquisition and interfaces for access to the longitudinal patient record at the point of use, including hospital-based, clinic/physician office-based, and home-based healthcare. Spacelabs thus provides networking and connectivity solutions adapted to the needs on the market. In that perspective, Spacelabs' highest-end monitor can, for instance, provide access to clinical information systems at the point of care through different systems (Dynamic Network Access or Windows Dynamic Network Access) in order to give clinicians the ability to view and control information systems interfaced with the network. Finally, Spacelabs' offering includes information systems solutions which, in the near future, are expected to become critical for many hospitals. Specifically, a clinical information system for use throughout the perioperative environment (Caremaster Plus OR Chart) has been designed for use by anaesthesia providers in order to address the needs of preoperative, operative and postoperative data management to provide the perioperative patient record. This CIS can be accessed in particular through Spacelabs' highest-end monitor. Finally, in 2003, Spacelabs will introduce the next generation networking infrastructure via its Intesys Clinical Database, providing an even opener network communication capability and enabling application via web services for remote information review.

(336) In terms of product range and monitoring capabilities in the perioperative area, Spacelabs thus offers technical solutions similar to those of GE prior to the merger. The Commission notes that the divestiture of Spacelabs also includes the transfer of Spacelabs' intellectual property rights as well the current agreements concluded by Spacelabs with third parties as regards technology licences, some of which are particularly relevant for the integration of modules used in the perioperative area (e.g contract with Aspect Medical Systems with respect to BIS module, and licence under Nellcor's pulse oxymetry sensor coding patents).

(337) As to the capability for the purchaser of Spacelabs to rely on effective sales forces and R&D, the Commission notes that, together with the requirement that the purchaser shall have, inter alia, the financial resources and proven expertise in order to develop the business, Spacelabs will also comprise distribution and research and development operations and sales channel operations for multi-parameter patient monitoring, currently managed through Datex-Ohmeda's Spacelabs medical manufacturing. In addition, alongside the transfer of key personnel, the divestiture of the Spacelabs business would also include the creation of sales teams that are appropriate to the level of perioperative monitor business in each EU country to the extent the purchaser does not have distribution capacity in the country concerned. Moreover, in order to ensure that the sales personnel concerned has sufficient market experience, and can thus be expected to have an effective access to anaesthesiologists, this transfer would include distribution staff of Spacelabs currently employed by Instrumentarium and its affiliated undertakings.

(338) With regard to the market presence of Spacelabs, the commitments are aimed at ensuring that the divestiture, together with the other commitments submitted by GE,

([220]) The Ultraview 1030, 1050, 1500, 1600 and 1700.
([221]) See T for G, Section 3.1 'Products and Markets', p. 6.

will enable the purchaser of the business to be a competitive force of size, presence and strength similar to GE's prior to the-merger on the market for perioperative monitors.

(339) First of all, whilst Spacelabs' installed base of perioperative monitors in Europe was on its own reported to be similar to that of GE in 2000 ([5 to 10 %]* compared to [5 to 10 %]* for GE) ([222]), with a market share then estimated at [5 to 10 %]*, the subsequent integration of Spacelabs within Instrumentarium in 2002 has been accompanied by a slight decline in its sales of perioperative monitors. With the objective of fully restoring and enhancing Spacelabs' competitiveness in this area, the commitment package thus includes the undertaking by GE to supply to the purchaser, on an exclusive basis, Datex-Ohmeda's 'Cardiocap5/gas monitor'. This monitor, considered as equivalent to the UV 1500, has been offered with a view to ensuring that the sales of the divested business would on their own — i.e. without taking account of the possible sales of perioperative monitors by the purchaser — correspond, to the greatest possible extent, to GE's own sales of perioperative monitors pre-merger, in particular on markets where the transaction would lead to the creation of a dominant position.

(340) The Commission notes, in this regard, that the EEA sales of Cardiocap/5 perioperative monitors during the year 2002 were, on their own, higher than the overall direct sales of GE's perioperative monitors, representing more than EUR [10 to 15]* million compared to EUR [5 to 10]* million for GE's direct sales. In the Member States where the Commission identified competition concerns, the combination of Spacelabs' own monitors and Cardiocap 5 perioperative monitors will eliminate or considerably reduce the overlap resulting from the merger. Thus, the overall 2002 direct sales of these monitors in France and Germany would have represented, respectively, a [5 to 10 %]* and a [5 to 10 %]* market share, compared to [5 to 10 %]* and [5 to 10 %]* for GE pre-merger. In other countries, on the basis of the 2002 figures, the corresponding market shares would even be substantially higher. In Spain, sales of Spacelabs and Cardiocap 5 perioperative monitors would thus represent a [15 to 20 %]* market share compared to [10 to 15 %]* for GE. In the United Kingdom, these sales would correspond to a [15 to 20 %]* market share, compared to [5 to 10 %]* for GE. Finally, in Sweden, where GE's market share was between [5 to 10]* and [5 to 10 %]* in 2002, the overlap would be substantially reduced, down to only [0 to 5]* %. In view of the duration (10 years), the scope (the EEA including all accession countries) and the exclusivity of the supply agreement for Cardiocap 5, the Commission considers that the purchaser will be in a position to maintain over time a significant market presence while also being in a position to develop its own manufacturing business. In that respect, the Commission further notes that the Cardiocap 5 perioperative monitor is indeed one of the best-selling products of Instrumentarium in the various EEA countries.

(341) In addition to offsetting the overlaps resulting from the merger, the commitments submitted by the notifying party are aimed at ensuring that the purchaser is actually put in a position to exert, also in qualitative terms, an effective competitive constraint on the merging parties by offering products of comparable quality. In that regard, the Commission is of the opinion that the exclusivity foreseen by the commitment relating to the sale of Cardiocap 5 perioperative monitors, or any successor or upgraded versions, will ensure that the purchaser can be immediately perceived as offering close substitutes to Instrumentarium's patient monitors.

(342) In parallel, the purchaser will have access, for a considerable period of time (10 years), to Instrumentarium's renowned gas modules, on favourable pricing terms. The Commission considers that the commitment relating to the gas module, and its upgraded or successor versions, will enable the purchaser to further develop Spacelabs' own monitors by incorporating Instrumentarium's high-end technology in the field of gas monitoring, a feature which is crucial for effective and successful presence in the perioperative area. It also has to be underlined that, prior to the merger, GE did not have access to these gas modules. Spacelabs will thus be in a more advantageous position than GE pre-merger in this respect, by virtue of this specific commitment.

(343) Finally, the Commission considers that, thanks to the commitment relating to the supply of anaesthesia machines and related supplies at favourable conditions, the purchaser of Spacelabs, similarly to the merged entity, will be in a position to effectively and successfully participate in package bids, that is to say, tenders involving combined perioperative monitor/anaesthesia machine bids and sales, at competitive prices. Similarly to the case of gas modules, it has to be underlined also here that, prior to the merger, GE did not have access to these anaesthesia machines at the conditions set out in the OEM supply agreement. Moreover, Spacelabs will be in a position to offer a full range of patient monitors, not limited to the

([222]) T for G, Section 3.3.1, 'Market Shares Monitors Europe' p. 6.

perioperative area, but also including the critical area, for which it has, already at this stage, a significant presence.

***Conclusion on the commitments for perioperative monitors***

(344) The Commission is of the opinion that the undertakings can be regarded as sufficient to remove the competition concerns identified by the Commission as to the compatibility of the transaction with the common market. The final overall package offered by the notifying party incorporates to a very considerable extent the comments and reactions by third parties. In particular, these commitments will solve the competition concerns identified by the Commission by offsetting the overlap between the merging parties in the market for perioperative monitors and by restoring competitive conditions equivalent to those existing prior to the merger.

(345) The Commission wishes nonetheless to emphasise that the identity of the purchaser, which remains subject to the approval of the Commission, will be crucial to ensure the efficacy of the undertakings. As a matter of fact, in view of the specificities of the functioning of the relevant market, the 'proven expertise' (such as being active in the market for perioperative or intensive care equipment and products) will be of particular relevance.

(346) The commitments described above (the effective divestiture of the divestment business and the full compliance with the OEM supply agreements) constitute conditions of this Decision, as only through full compliance therewith (subject to any change pursuant to the review clause of the Annex), can the structural change on the relevant market be achieved. The remaining commitments constitute obligations (subject to any change pursuant to the review clause of the Annex), as they concern the implementing steps, which are necessary to achieve the sought structural change.

2. *VERTICAL (INTERFACE) COMMITMENT*

(347) Following the communication of the Commission's serious doubts in the Article 6(1)(c) decision initiating proceedings in this case and whilst the in-depth investigation was ongoing, the notifying party, by letter of 11 June 2003, submitted commitments (The Original Interface Commitment) pursuant to Article 8(2) and 10(2) of the Merger Regulation with a view to removing the Commission's serious doubts as to the interoperability between anaesthesia machines, patient monitors and CIS.

(348) The commitment appeared to eliminate in principle the Commission's serious doubts relating to the vertical issues and was therefore market-tested in order to assess its viability and effectiveness. The commitment was revised by the notifying party on 4 July 2003 following comments received from market participants. Some further revisions were made following the market test of the 'horizontal commitment'. The final version of the Interface Commitment was therefore submitted on 24 July 2003 (the Interface Commitment) and appears in Annex II to this Decision.

THE MARKET TEST OF THE ORIGINAL INTERFACE COMMITMENT

(349) The market test of the original Interface Commitment produced largely positive results ([223]). The majority of hospitals responding to the Commission's questionnaire appeared satisfied with the commitment and believed that it was sufficient to eliminate the vertical competition concerns identified above. A number of respondents, however, highlighted certain misgivings which were focused on a number of provisions which respondents felt could be improved in order to ensure the viability and effectiveness of the commitment.

(350) In particular, some respondents thought that the obligation to keep interfaces open as defined in the Original Interface Commitment was not comprehensive as it excluded two-way exchange of data (from and to the merged entity's devices) and provided for open interfaces of the merged entity's patient monitors only as regards their connection with third party CIS and not with third party anaesthesia machines; open interfaces for CIS were not covered. The 'open interface' definition

([223]) Questionnaires were sent to approximately 200 hospitals which had participated in the Commission's in-depth investigation as well as to patient monitor, anaesthesia machine and CIS competitors of the parties. A significant number of responses were received by both competitors and customers. Overall, competitors were split fairly evenly as to the efficacy of the proposed commitment. Overall, a majority of customers expressed satisfaction that the commitment would eliminate the vertical concerns identified by the Commission. A minority of customers expressed certain concerns while others provided no or only unclear answers.

in clause 3 of the original interface commitment was considered too vague (reference only to 'industry practice') and ineffective by a number of respondents as it did not include a specific benchmark. It would not guarantee non-discriminatory treatment of third party devices and the merged entity's devices and therefore could still allow the merged entity to degrade interoperability of third party devices. The provisions relating to the obligation to provide interfacing information 'without undue delay' and 'from product development' were also considered rather vague. Information should be provided according to a principle of non-discriminatory treatment as soon as the information was sufficiently complete to enable third parties to achieve an open interfacing early enough so that third party suppliers could achieve interoperability of their devises in good time so as to be able to compete effectively with new products launched by the merged entity. The market test also highlighted some practical problems associated with the information and certification cooperation obligations of the Original Interface Commitment, namely that more specific procedures need to be included in the commitment and, in particular, that confidentiality of third party information not be compromised when cooperating with the merged entity. Finally, it was stressed that the Commission should ensure compliance with the commitment by closely monitoring its application through a trustee.

ASSESSMENT OF THE CONCENTRATION AS MODIFIED BY THE INTERFACE COMMITMENT

(351) The positive results of the market test, the further improvements made by the notifying party and the Commission's assessment of the viability and effectiveness of the Interface Commitment, led to the conclusion that the Interface Commitment would dispel in an appropriate fashion the abovementioned serious doubts relating to vertical, interoperability issues. As a result, no objections were raised as to the compatibility of the proposed concentration, as modified, with the common market as regards the abovementioned vertical concerns.

(352) The Interface Commitment aims at ensuring electrical and mechanical interoperability between the different relevant devices. According to the Interface Commitment, GE/Instrumentarium undertake to keep interfaces of existing and future therapy devices (anaesthesia machines and ventilators), patient monitors (including perioperative and critical care monitors), and CIS 'open' by providing reasonable, safe, seamless and effective interface options in accordance with industry practice, accepted industry standards and relevant regulatory requirements. The commitment does not preclude GE/Instrumentarium from producing integrated machines (such as Instrumentarium's ADU) which are popular with a number of hospitals in the EEA provided that the interfaces of such machines remain open in order to allow interfacing of additional third party relevant devices. According to the commitment which took into account comments made by third parties during the market test, open interfaces should adhere to a principle of non-discriminatory treatment by providing third party devices with options as effective as those available to GE/Instrumentarium's own devices with the exception, of course, of situations where the third party device characteristics are such (for example inferior to those of GE/Instrumentarium's own devices) as not to permit such equivalent, open interfacing. GE/Instrumentarium will have an obligation to state in its product literature or web site that its devices have open interfaces. Customers would therefore have no reason to doubt that they could continue to 'mix and match' GE/Instrumentarium devices with third party devices.

(353) Further, GE/Instrumentarium would have an obligation to provide third party suppliers with the interfacing information and data, including for example the communication protocol and other specifications including necessary technical clarifications, which is necessary for third parties to develop open interfaces. Requisite interfacing information on modifications, upgrades or new devices would be provided automatically without further specific requests being necessary. Information would be provided on a non-discriminatory basis, free of charge or at cost and without undue delay. The information on upgrades and new devices would be provided at a sufficiently early stage having regard to a principle of non-discriminatory treatment and with the aim of providing third parties the opportunity to develop competing interfaces as early as GE/Instrumentarium. GE/Instrumentarium would therefore have to provide the requisite information immediately from the time that it is sufficiently developed to enable third parties to develop interfaces and in any event no later than product development. Specific obligations are included ensuring that third parties would receive information or an adequate reasoned response explaining why the information is not available within twenty working days from making a request. Having considered comments by a third party stressing that early provision of information was paramount, the Commission believes that the commitment ensures such timely provision. The Commission considers that the commitments give adequate guarantees that competitors will receive such

information in good time; in addition, in view of the relatively long product cycles of therapy equipment and patient monitors and the duration of tender procedures any foreclosure effects would be excluded.

(354) In order to further ensure the efficacy of the commitment, GE/Instrumentarium undertook to provide technical assistance and consultation to enable third parties to use the interfacing information. Contact points would be advertised in its documentation or on its web site. Moreover, the commitment includes specific obligations for cooperation, lending of requisite equipment in order to perform interoperability tests and for certification purposes; third parties can therefore perform necessary tests in order to obtain certificates (such as the IEC 601 mechanical integration test) which they may find necessary. Confidentiality provisions are included in order to ensure that third party information provided to GE/Instrumentarium personnel in the context of the commitment would not be used by the merged entity for other purposes. Further, GE also accepted an obligation to provide third party suppliers with the necessary physical components and devices at reasonable and non-discriminatory market prices to enable them to achieve open Interfaces or to make demonstrations of interoperability to customers and at trade shows.

(355) Finally, the commitment includes provisions designed to ensure its compliance. GE will have an obligation to report to the Commission upon request. The Commission will also have the ability to monitor compliance through the appointment of an independent trustee which will be appointed from the moment GE acquires control over Instrumentarium. The trustee will be assisted by an independent expert with knowledge of the relevant industry. In addition, third parties would have recourse to a fast track arbitration dispute resolution procedure (as set out in the Annex to the Interface Commitment) which would enable third parties to receive speedy and effective adjudication through independent arbitrators. Importantly, the Commission would retain control of the procedure as the arbitrators would have to seek and be bound by the Commission's interpretation of the Commitments where necessary.

CONCLUSION — THE INTERFACE COMMITMENT ELIMINATES THE COMMISSION'S SERIOUS DOUBTS RELATING TO VERTICAL ISSUES

(356) In addition and further to the horizontal commitments which reduce the merged entity's position in perioperative and critical care monitors, the Interface Commitment removes foreclosure-related serious doubts by ensuring that it will continue to be possible in the future to connect the patient monitors, anaesthesia machines and CIS of third-party manufacturers to the merged entity's devices and CIS. The merged entity would be under an obligation to provide safe, seamless and effective interface options, to provide interface information on a non-discriminatory basis and to cooperate with third parties where certification of a configuration is necessary. The monitoring and dispute resolution procedures included in the commitment would ensure the merged entity's compliance with the commitment by giving both the Commission and third parties adequate powers of monitoring and enforcement.

(357) In the light of the above, it is considered that the commitments would prevent the merged entity from engaging in foreclosure strategies. Hospitals in the EEA would benefit from continuing to enjoy the ability to mix and match devices and components from those suppliers they prefer on the merits of the supplier's product. This was confirmed by a number of specific positive customer responses in the market test of the commitment.

(358) It could therefore be concluded that, provided that the Interface Commitment entered into by the parties is complied with in full, the serious doubts identified by the Commission in relation to interoperability issues would be dispelled and the concentration, as modified by the Interface Commitment, could be declared compatible with the common market.

## VI. **CONDITIONS AND OBLIGATIONS**

(359) Under the first sentence of the second subparagraph of Article 8(2) of the Merger Regulation, the Commission may attach to its decision conditions and obligations intended to ensure that the undertakings concerned comply with the commitments they have entered into vis-à-vis the Commission with a view to rendering the concentration compatible with the common market.

(360) Where a condition is not fulfilled, the Commission decision declaring the merger to be compatible with the common market no longer stands. Where the undertakings concerned commit a breach of an obligation, the Commission may revoke the clearance

decision in accordance with Article 8(5)(b) of the Merger Regulation; the undertakings concerned may also be subject to fines and periodic penalty payments under Articles 14(2)(a) and 15(2)(a) of the Merger Regulation.

(361) In accordance with the basic distinction described above, the Commission makes its decision subject to the condition of full compliance with the following commitments:

(a) the commitments set out in points 1 to 6, 15, 16, 17 and 20 of Annex I (the Spacelabs Commitment);

(b) the whole of the Interface Commitment and its Annex concerning interoperability issues which is attached as Annex II to the Decision except for the provisions regarding the specificities of the reporting obligations and of the trustee's appointment set out in clauses 8 and 9.

(362) In accordance with the basic distinction described above, the Commission makes its decision subject to the obligations on GE to comply in full with the commitments entered into in points 7 to 14, 18, 19, and 21 to 42 of Annex I (the Spacelabs Commitment), and with the provisions regarding the reporting obligations and the trustee's appointment set out in clauses 8 and 9 of Annex II (the Interface Commitment).

## VII. **CONCLUSION**

(363) The Commission has concluded that the commitments submitted by the notifying party are sufficient to address the competition concerns raised by this concentration. Accordingly, subject to the full compliance with the commitments submitted by the notifying party, the Commission has decided not to oppose the notified operation and to declare it compatible with the common market and the functioning of the EEA Agreement. This Decision is adopted in application of Article 8(2) of the Merger Regulation and of Article 57 of the EEA Agreement.

HAS ADOPTED THIS DECISION:

*Article 1*

The notified operation whereby General Electric Company would acquire sole control of Instrumentarium OYJ within the meaning of Article 3(1)(b) of Regulation (EEC) No 4064/89 is, as modified according to Annexes I and II to this Decision, hereby declared compatible with the common market and the functioning of the EEA Agreement.

*Article 2*

Article 1 is subject to full compliance with the conditions set out in points 1 to 6, 15, 16, 17 and 20 of the Spacelabs Commitment in Annex I to this Decision and with the whole of the Interface Commitment, including its annex, set out in Annex II to this Decision, except for clauses 8 and 9 of the Interface Commitment, which shall apply as obligations pursuant to Article 3.

*Article 3*

Article 1 is subject to full compliance with the obligations set out in points 7 to 14, 18, 19, and 21 to 42 of the Spacelabs Commitment in Annex I to this Decision and with clauses 8 and 9 of the Interface Commitment in Annex II to this Decision.

*Article 4*

This Decision is addressed to:

General Electric Company
3135 Easton Turnpike
Fairfield
Connecticut 06431
USA

Done at Brussels, 2 September 2003.

*For the Commission*
Mario MONTI
*Member of the Commission*

*ANNEX I*

The full original text of the conditions and obligations referred to in Articles 1, 2 and 3 may be consulted on the following Commission website:

http://europa.eu.int/comm/competition/index_en.html

*ANNEX II*

The full original text of the conditions and obligations referred to in Articles 1, 2 and 3 may be consulted on the following Commission website:

http://europa.eu.int/comm/competition/index_en.html