



EUROPEAN COMMISSION
DG Competition

Case M.8087 - SMITHS GROUP / MORPHO DETECTION

Only the English text is available and authentic.

**REGULATION (EC) No 139/2004
MERGER PROCEDURE**

Article 6(1)(b) in conjunction with Art 6(2)
Date: 18/01/2017

***In electronic form on the EUR-Lex website under document
number 32017M8087***



EUROPEAN COMMISSION

In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EC) No 139/2004 concerning non-disclosure of business secrets and other confidential information. The omissions are shown thus [...]. Where possible the information omitted has been replaced by ranges of figures or a general description.

Brussels, 18.01.2017
C(2017) 349 final

PUBLIC VERSION

To the notifying party:

Dear Sir or Madam,

**Subject: Case M.8087 - SMITHS GROUP / MORPHO DETECTION
Commission decision pursuant to Article 6(1)(b) in conjunction with
Article 6(2) of Council Regulation No 139/2004¹ and Article 57 of the
Agreement on the European Economic Area²**

¹ OJ L 24, 29.1.2004, p. 1 (the "Merger Regulation"). With effect from 1 December 2009, the Treaty on the Functioning of the European Union ("TFEU") has introduced certain changes, such as the replacement of "Community" by "Union" and "common market" by "internal market". The terminology of the TFEU will be used throughout this decision.

² OJ L 1, 3.1.1994, p. 3 (the "EEA Agreement").

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- (1) On 23 November 2016, the European Commission received notification of a proposed concentration pursuant to Article 4 and following a referral pursuant to Article 4(5) of the Merger Regulation by which Smiths Group plc ("Smiths", United Kingdom) acquires within the meaning of Article 3(1)(b) of the Merger Regulation control of the whole of Morpho Detection, LLC and Morpho Detection International, LLC (together "Morpho Detection", United States of America) by way of purchase of shares and assets (the "Transaction").³ Smiths and Morpho Detection are collectively referred to as the "Parties".

1. THE PARTIES

- (2) Smiths is a global technology company with five divisions: John Crane, Smiths Medical, Smiths Detection, Smiths Interconnect and Flex-Tek. Smiths Detection offers security solutions for customers worldwide. It develops and manufactures equipment that detects and identifies explosives, weapons, chemical agents, biohazards, nuclear and radioactive material, narcotics and contraband. It also offers services to maintain and upgrade its installed base of equipment and related products.
- (3) Morpho Detection consists of (i) Morpho Detection, LLC and Morpho Detection International, LLC, two wholly-owned subsidiaries of Morpho USA, Inc., which in turn is an indirect, currently wholly-owned subsidiary of Safran S.A. ("Safran"), a group which ultimately supplies systems and equipment in aerospace, defence, and security, and (ii) assets exclusively related to or used in the detection business, and liabilities to the extent related to the detection business, in each case held by other wholly-owned subsidiaries of Safran.
- (4) Morpho Detection develops and manufactures equipment for detecting and identifying explosive, radiological and nuclear threats, as well as narcotics and contraband. It also offers services to maintain and upgrade its installed base of equipment and related products.

2. THE TRANSACTION

- (5) The Transaction consists in the acquisition of 100% of Morpho Detection by an indirect wholly-owned subsidiary of Smiths. The Transaction is to be implemented by means of a share and asset purchase agreement entered into by and among subsidiaries of Safran and of Smiths on 20 April 2016.
- (6) The Transaction therefore constitutes a concentration within the meaning of Article 3(1)(b) of the Merger Regulation.

3. UNION DIMENSION

- (7) The Transaction does not have a Union dimension within the meaning of Article 1 of the Merger Regulation as the Parties' turnover does not meet the thresholds of Article 1(2) or 1(3) of the Merger Regulation. However, it fulfilled the conditions set out in Article 4(5) of the Merger Regulation for the Parties to request referral of the case to the Commission, as it was reviewable under the

³ Publication in the Official Journal of the European Union No C 445, 30.11.2016, p. 8.

merger control laws of at least three Member States (Germany, Portugal, Spain and the United Kingdom).

- (8) Following the notification of a reasoned submission by the Parties on 8 July 2016, the Transaction acquired a Union dimension on 2 August 2016, since none of those four Member States expressed their disagreement to a referral of the case to the Commission.

4. MARKET DEFINITION

4.1. Introduction

- (9) The Transaction involves two global suppliers of threat detection equipment, which encompasses all products used to detect explosives, weapons and contraband across a range of industries by screening cabin baggage, hold baggage, cargo, vehicles, people and their personal belongings. Due to an increasing number of threats and the challenge of illegal contraband, the demand for advanced and, where possible, automated detection systems has increased.
- (10) In that context, the main user of threat detection equipment is the air transportation industry, followed by ports and borders, critical infrastructure,⁴ military and emergency responders.⁵
- (11) In order to define the relevant markets, the Commission will first describe in Section 4.2 the general features of the threat detection equipment industry, more particularly (i) the distinction between air transportation end-users and other end-users (also referred to as the regulated sector and the non-regulated sector respectively), and (ii) the absence of independent after-market. Against that background, the Commission will more specifically define, in respectively Section 4.3 and Section 4.4, the relevant product and geographic markets for the three types of threat detection equipment that the Parties both develop or manufacture.

4.2. General

4.2.1. End-use markets: distinction between the regulated sector (air transportation) and the non-regulated sector (other industries)

4.2.1.1. Regulated sector (air transportation)

- (12) Air transportation infrastructure that requires large amounts of baggage to be processed, notably airports and other air cargo installations, deploy different types of threat detection equipment to perform two levels of screening:⁶ (i) primary screening, which typically involves equipment which can screen large amounts of baggage or passengers relatively quickly, and (ii) secondary or supplementary

⁴ Critical infrastructure refers to infrastructure susceptible of receiving security threats such as courts, prisons and other government buildings, power stations, sports stadia and hotels.

⁵ Form CO, Supporting Document 5.4(38) – Strategic Planning Process: interim check-in, page 5.

⁶ Screening means the application of technical or other means which are intended to identify and/or detect prohibited articles (weapons, explosives or other dangerous devices, articles or substances that may be used to commit an act of unlawful interference).

screening, which involves the deployment of specific equipment or physical inspection to resolve alarms or unclear results arising from primary screening and, in the EEA, to satisfy Union regulatory requirements for a specific proportion of additional random secondary checks at airports.⁷

- (13) Due to global security threats, the use of threat detection equipment in the air transportation sector is regulated. More specifically, in the EEA, it is regulated by a Union regulation which defines the common basic standards for safeguarding civil aviation against acts of unlawful interference and notably mandates that security equipment satisfies minimum standards of detection.⁸ That regulation is complemented by other Union acts that *inter alia* define the methods of screening allowed, as well as the requirements and procedures for screening.

Types of aviation security screening equipment allowed in the EEA

- (14) Under the above-described Union legislation, the following types of security equipment are used in the EEA for civil aviation security.
- (15) For primary screening, EEA airports use Explosive Detection Systems ("EDS") for hold baggage ("hold baggage EDS"), which are automated baggage screening machines.⁹ At checkpoints, EEA airports generally use conventional X-ray systems ("CXS") for cabin baggage, which is controlled by a human operative, and walk through metal detectors for passengers. For air cargo installations, CXS is generally used for large cargo and EDS for high volumes of smaller packages.
- (16) For secondary screening, EEA airports may use Explosive Trace Detection equipment ("ETD"),¹⁰ hand search by security personnel, additional X-ray scanners or explosives detection dogs for hold baggage and cabin baggage at checkpoints. For passengers at checkpoints, EEA airports may use millimetre-

⁷ Commission Implementing Decision C(2015)8005 final laying down detailed measures for the implementation of the common basic standards on aviation security containing information, as referred to in point (a) of Article 18 of Regulation (EC) No 300/2008, and repealing Decision (2010) 774 of 13 April 2010 (not published in the OJ).

⁸ Regulation (EC) No 300/2008 of the European Parliament and of the Council of 11 March 2008 on common rules in the field of civil aviation security and repealing Regulation (EC) No 2320/2002 (OJ L 97, 9.4.2008, pp. 72-84).

⁹ Under paragraph 12.4.1.1 of the Annex to Commission Implementing Regulation (EU) 2015/1998, "*Explosive detection systems equipment (EDS) shall be able to detect and to indicate by means of an alarm specified and higher individual quantities of explosive material contained in baggage or other consignments*" (Commission Implementing Regulation (EU) 2015/1998 of 5 November 2015 laying down detailed measures for the implementation of the common basic standards on aviation security, OJ L 299, 14.11.2015, p. 1). Small EEA airports with very low traffic may alternatively manage the screening of hold baggage using only X-ray scanners complemented by other methods of screening (e.g. Explosive Trace Detection equipment, explosive detection dogs, hand search). This method however results in a low throughput capacity and is therefore marginally relied upon (see agreed minutes of a conference call with ECAC of 19 September 2016, paragraph 12).

¹⁰ Under paragraph 12.6.1 of the Annex to Commission Implementing Regulation (EU) 2015/1998, "*ETD equipment shall be able to collect and analyse trace levels of particles or vapour from contaminated surfaces, or the contents of baggage or consignments, and indicate, by means of an alarm, the presence of explosives.*"

wave technology, ETD or hand search by security personnel. For air cargo installations, the same options as for hold baggage at airports are available.¹¹

Technical specifications and performance requirements for aviation security screening equipment in the EEA

- (17) The above-described Union legislation establishes the technical specifications and performance requirements that threat detection equipment must comply with to be used at airports and air cargo installations in the EEA. Compliance tests against those standards are generally carried out under the Common Evaluation Process ("CEP") elaborated within the European Civil Aviation Conference ("ECAC").¹² The CEP is defined as a laboratory testing programme of security equipment against the performance standards set out in EU legislation (the "EU/ECAC standards") to provide a common reference for national administrations to certify or approve the security equipment deployed in airports according to EU legislation. All 44 ECAC Member States have signed the Administrative Arrangements to use the CEP and all are either contributors to the CEP (i.e. they provide laboratories for testing) or beneficiaries of the CEP (i.e. they have access to the laboratory test results).¹³
- (18) The lists of all equipment having been positively evaluated under the CEP as fulfilling the EU/ECAC standards are established per type of equipment and published by ECAC, generally four times a year.¹⁴ Only equipment included in those ECAC lists may be approved or certified by the appropriate authority for aviation security in each ECAC Member State and, consequently, may be sold in the EEA for use in the regulated, air transportation sector.

Homogeneity between equipment included in ECAC lists and equipment approved or certified at national level in the EEA

- (19) Although the standards set by Union legislation for threat detection equipment in the aviation sector are binding, they are not accompanied by a legally binding EEA-wide conformity assessment scheme.¹⁵ To address the subsequent risk of fragmentation of the market, the Commission adopted on 7 September 2016 a proposal for a regulation of the European Parliament and of the Council establishing a Union certification system for aviation security screening

¹¹ Form CO, paragraphs 19, 20 and 21.

¹² ECAC is Europe's largest aviation organisation with 44 Member States (EU 28, Iceland and Norway, Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Moldova, Monaco, Montenegro, San Marino, Serbia, Switzerland, the Former Yugoslav Republic of Macedonia, Turkey, and Ukraine). Liechtenstein is not an ECAC member as there is no airport located in its territory.

¹³ See agreed minutes of a conference call with ECAC of 19 September 2016, paragraph 3.

¹⁴ See agreed minutes of a conference call with ECAC of 19 September 2016, paragraph 8 and <https://www.ecac-ceac.org/cep>.

¹⁵ While standard requirements may be converging between the Union and the USA, where the Transport Security Administration (TSA) is responsible for the certification and the purchase of threat detection equipment for US airports, conditions of competition in the EEA and the US regulated sectors would be distinct, in particular because the suppliers identified in the ECAC and TSA lists of approved equipment are different (e.g. more restricted at this stage in the TSA list for EDS and ETD than in the ECAC list).

equipment,¹⁶ which would be binding and directly applicable in all EEA Member States. The Commission nevertheless noted in its proposal that the development of common testing methodologies within the framework of the CEP provided by ECAC had already contributed to the harmonisation of the national certification systems.

- (20) While currently an evaluation under the CEP does not constitute an approval or certification of the equipment by ECAC and approval or certification of equipment remains the responsibility of the appropriate authority for aviation security in each ECAC Member State, the Commission's market investigation for the present case indicates that the development and improvement of the CEP by ECAC has resulted in the simplification of the certification procedures within the EEA and in the reduction of the number of testing procedures. It also demonstrates that the barriers to enter an EEA Member State are low once equipment has been tested by ECAC under the CEP as compliant with the applicable standards and requirements.
- (21) More specifically, the market investigation shows that strictly regulated types of security screening equipment like hold baggage EDS and ETD, which have been subject to ECAC testing under the CEP since respectively 2009 and 2014, do not undergo additional national testing before approval or certification at national level. Therefore, all hold baggage EDS and ETD included in ECAC lists of EU/ECAC standard compliant equipment are systematically approved or certified by the appropriate authority for aviation security in each EEA Member State and may be supplied seamlessly to EEA airports.¹⁷

4.2.1.2. Non-regulated sector (ports and borders, critical infrastructure, military and emergency responders)

- (22) Contrary to the use of threat detection equipment by the air transportation industry, the use of threat detection equipment in other industries is generally not subject to compulsory rules.¹⁸

¹⁶ COM(2016)491 final – <http://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-491-EN-F1-1.PDF>.

¹⁷ This is without prejudice to compliance with certain administrative procedures applicable in certain Member States. For example, in France, for the French Civil Aviation Technical Service ("STAC") to issue a certificate, the manufacturer of equipment positively evaluated under the ECAC CEP must submit a request to the STAC. Any difference between the list of equipment positively evaluated under the ECAC CEP and the list of equipment certified by the STAC would result from the manufacturer not having requested certification by the STAC (see agreed minutes of a conference call with the STAC of 18 October 2016, paragraph 5).

¹⁸ That general statement is without prejudice to specific national rules outside of the EEA which would also apply to the non-air transportation sector. Conversely, EEA airports and air cargo installations which are part of the regulated sector may in theory purchase equipment not compliant with EU/ECAC standards, provided that they are used for the purpose of implementing safety measures that go beyond the EU regulatory requirements. The market investigation shows that this theoretical possibility is in fact generally not applied and that EEA airports only purchase EU/ECAC standard compliant equipment (see response of ACI Europe to the RFI of 08 December 2016).

4.2.1.3. Distinction between the supply of security screening equipment to the regulated sector and to the non-regulated sector

- (23) The divergence in the level of regulation applicable to the supply of threat detection equipment to end-users active in the regulated sector (air transportation industry) and in the non-regulated sector (other industries) entails three major differences between those two sectors.
- (24) First, demand is not driven by the same considerations. In the regulated air transportation sector, demand is first and foremost driven by compliance with the regulatory framework, which leads to demand peaks at the time of mandatory deadlines for implementing new security measures. As an example, in the EEA, airports had to use ETD compliant with the applicable EU/ECAC standard by 1 September 2015, which triggered an exponential growth in ETD sales to the regulated sector in 2015. In the non-regulated sector, demand is more oriented towards operational efficiency, which leads to a more linear demand.¹⁹
- (25) Second, some types of threat detection equipment (e.g. hold baggage EDS) are principally designed for the regulated air transportation sector, due to the specific need of airports (and to a lesser extent air cargo operators) to use equipment (i) complying with the requirements set out by legislation (ii) with a high throughput capacity, and (iii) accompanied with support services ensuring availability and reliability throughout the operational day.
- (26) Conversely, end-users active in the non-regulated sector are not bound to use a specific type of equipment and may opt for different security screening solutions (e.g. automated or non-automated threat detection systems) depending on their needs and preferences.
- (27) Third, for those types of equipment which are used in both the regulated and non-regulated sectors (e.g. ETD), the mandatory compliance with the applicable technical or performance standards leads to restricted competition in the regulated sector compared to the non-regulated sector, to the extent that not all devices obtain the certification or approval required to be supplied to regulated air transportation customers. Therefore, for end-users active in the regulated sector, there is no possible demand substitution between certified (or approved) equipment and non-certified (or non-approved) equipment.
- (28) In view of the restricted choice in ETD that regulated customers may use, Smiths agrees that there is a meaningful segmentation of the ETD market for the regulated customers.²⁰ However, Smiths submits that the segmentation of the ETD market for non-regulated customers would not be meaningful. Instead, the two relevant ETD product markets should be defined as, on the one hand, the

¹⁹ The results of the market reconstruction referred to in Section 5.1 below confirm the evolution of the size of the markets found by the Parties, according to which, based on revenue from equipment only, the total EEA sales of ETD to the regulated sector increased by more than 1 500% between 2014 and 2015, while the total worldwide sales of ETD to the non-regulated sector decreased by less than 10%.

²⁰ Smiths' reply to RFI 2 of 29 November 2016, submission on "Non-Regulated Trace Sector".

supply of ETD to the regulated sector and, on the other hand, the supply of all ETD (including ETD supplied to the regulated and non-regulated sectors).²¹

- (29) To support its proposed market definition, Smiths notably claims that customers in the non-regulated sector do not have a distinct set of alternatives from which they can source ETD. They purchase both certified (or approved) equipment and non-certified (or non-approved) equipment. Furthermore, the Parties and their main competitors sell the same ETD devices to non-regulated customers as those sold to regulated customers.
- (30) The Commission notes that the asymmetric segmentation of the ETD market proposed by Smiths would raise some issues.
- (31) First, it would not enable to accommodate the differences between the regulated and non-regulated sectors in terms of market dynamics, notably the higher volatility and the higher degree of saturation of the regulated sector compared to the non-regulated sector. The higher volatility in the regulated sector is twofold: (i) the variations in the size of the ETD regulated market from year to year are more dramatic; and (ii) in 2015, the Parties lost sales to ETD manufacturers having recently entered the regulated sector, while such disruption does not seem to have taken place (at least to any material extent) in the non-regulated sector in 2015.
- (32) It would also not reflect the differences in the purchasing procedures generally followed in each sector. The market investigation confirms that EEA airports or national central purchasing authorities in the EEA, which may be subject to public procurement procedures, almost systematically rely on tender procedures for the purpose of acquiring their threat detection equipment, be it EDS or ETD.²² Conversely, non-regulated customers more heavily rely on bilateral negotiations or targeted requests for proposals.²³
- (33) Second, it would not reflect the differences in the competitive constraints between the regulated and non-regulated sectors, including in terms of demand substitutability. There is no possible substitution between certified (or approved) and non-certified (or non-approved) ETD in the regulated sector,²⁴ while such substitution might take place in the non-regulated sector. In addition, not all groups of non-regulated customers use ETD in environments and circumstances comparable to those of regulated customers (in particular at fixed checkpoints)

²¹ Smiths' reply to RFI 2 of 29 November 2016, submission on "Non-Regulated Trace Sector".

²² Replies to Q1, question 2 and response of ACI Europe of 06 October 2016 to the questions dated 19 September 2016, section 1.vi.

²³ For ETD, this difference in the purchasing procedures might explain why, although non-regulated end-users may in theory have a larger choice of suppliers than regulated end-users, the average number of suppliers being requested a quote by non-regulated end-users is slightly lower than the average number of suppliers submitting bids to regulated end-users (average 2.6 ETD suppliers for the non-regulated sector; average 2.8 ETD suppliers for the regulated sector) (replies to Q2, question 6 and replies to Q1, question 4).

²⁴ For the purpose of implementing the security measures required by EU legislation, the purchase of non-certified equipment is not allowed in the regulated sector. The market investigation showed that, more generally, EEA airports do not in principle purchase non-certified equipment, even to implement security measures that would go beyond those required by EU legislation (see reply of ACI Europe to RFI of 8 December 2016).

and therefore demand the same ETD products as regulated customers. The Commission notes in particular that specific demand from non-regulated customers, notably in terms of ETD portability or ruggedness, may not currently be met by certified (or approved) ETD.²⁵

- (34) In terms of supply substitutability, the Commission agrees with Smiths that there is no regulatory barrier to the sale of certified (or approved) ETD to the non-regulated sector²⁶ and that the Parties sell to the non-regulated sector the same desktop ETD products as those sold to the regulated sector. Nevertheless, as for demand, such supply-side substitution is only possible in the non-regulated sector. A supplier only able to sell ETD to the non-regulated sector would have to incur significant costs and face delays to be able to possibly receive certification (or approval) and be able to sell ETD to the regulated sector. In addition, as indicated in Section 5.2.3.3 below, the Commission does not exclude that being active in the regulated sector is a pre-requisite to be able to compete effectively for the supply of desktop ETD to the non-regulated sector.
- (35) Besides, the asymmetric segmentation of the ETD market would also appear to deviate from Smiths'²⁷ or Morpho Detection's²⁸ own usual approach to the addressable threat detection market according to most Parties' internal documents.

4.2.1.4. Conclusion

- (36) In view of the above, and considering all evidence available to it, the Commission concludes that, for the purpose of this Decision, the supply of threat detection equipment to the regulated sector (air transportation end-users) and the supply of threat detection equipment to the non-regulated sector (other end-users) constitute distinct markets (even if certain types of equipment may be sold to both sectors).

4.2.2. *After-market: no distinction between supply of equipment and after-sales service*

- (37) The threat detection equipment after-market encompasses training, spare parts and consumables, maintenance and other after-sales services (e.g. upgrading). Although the level of after-sales service depends on the type of equipment and the

²⁵ For the distinction between desktop and handheld ETD, see Section 4.3.3 below. The Commission notes in particular that, while a handheld ETD model (Bruker's RoadRunner) was validated on 20 September 2016 by ECAC as compliant with the EU/ECAC standard, its field of use is limited to the screening of passengers. The other ETD models listed in the ECAC list may be used for the screening of passengers and cargo.

²⁶ As further explained in Section 5.2.3.3, certification of approval of ETD may act as proof of quality and facilitate sales to the non-regulated sector. See notably agreed minutes of a conference call with a competitor of 14 September 2016, paragraph 9, indicating that sales of non ECAC-certified equipment to the non-regulated sector are rare in the EEA.

²⁷ Form CO, Supporting Document 5.4(38) – Strategic Planning Process: interim check-in, page 3: "[Strategy]" and Annex 5(5) – Frost & Sullivan Report, "[Strategy]", December 2015, which is based on three sectors: "[sector]", "[sector]", and "[sector]".

²⁸ Form CO, Annex 5(1)(ii) - Morpho Detection Management Presentation (January 2016), pages 28-34. According to the presentation, Morpho Detection breaks the end markets down into "[sector]" and "[sector]".

end-user, after-market revenue over the life of a machine may be equal to equipment-only revenue.²⁹

- (38) End-users of threat detection equipment may obtain after-sales service required after the initial warranty period of typically one or two years from three sources: (i) they may provide it by themselves; (ii) they may purchase it directly from the original equipment manufacturer; or (iii) they may purchase it from third parties.³⁰
- (39) Smiths considers that the Transaction does not give rise to a separate relevant market for after-sales maintenance or servicing, since [strategy].³¹ In addition, for EDS which requires extensive maintenance and servicing, Smiths submits that EEA customers increasingly require whole life costing of hold baggage EDS as part of the initial equipment, including after-sales service.³²
- (40) The results of the market investigation show that, to a large extent, the provision of after-sales service may not be dissociated from the supply of original equipment. First, most distributors and end-users of ETD in the non-regulated sector indicate that after-sales and maintenance services are generally purchased together with ETD³³ and that the supplier of after-sales and maintenance services for ETD is generally the supplier of ETD (i.e. the manufacturer or its distributor).³⁴ Likewise, in the regulated sector, most airports responding to the market investigation state that after-sales and maintenance services are included in the contract concluded with the supplier of equipment or will be included in the contract to be concluded with the supplier of equipment. This outcome is valid for EDS³⁵ and ETD.³⁶ The reasons given for those purchasing patterns include in particular the requirements to keep the total cost of ownership of equipment under control and to ensure continuity of operation, and the efforts to simplify the procurement process.
- (41) Second, the original manufacturer of equipment is generally the only one able to provide after-sales service, either directly or through its local partner, distributor or authorised agent, due notably to proprietary rights on the technologies used in

²⁹ Form CO, footnote 61 (for the example of EDS). For ETD, see agreed minutes of a conference call with a competitor of 14 September 2016: *"The cost of a 5-year service contract is comparable to the initial cost of equipment (the cost of service per year equals 10-20% of the cost of the unit sold initially)."*

³⁰ Form CO, paragraph 273 (for the example of EDS).

³¹ Form CO, paragraphs 280, 310, 622 and 624. [Details on Morpho Detection's after-sales servicing]. In view of [...], Morpho Detection will not be further considered as actively competing for the provision of after-sales service for third parties' equipment.

³² Form CO, paragraph 279.

³³ Replies to Q2, question 5.

³⁴ Replies to Q2, question 5.2.

³⁵ Replies to Q1, questions 7.1, 11.1 and 11.3. See also agreed minutes of conference calls with two competitors of 27 September 2016 and 17 October 2016 and response of ACI Europe of 06 October 2016 to the questions dated 19 September 2016, section 1.vi.

³⁶ Replies to Q1, questions 7.2, 11.1 and 11.2. See also agreed minutes of a conference call with a competitor of 13 September 2016 and response of ACI Europe of 06 October 2016 to the questions dated 19 September 2016, section 1.vi.

equipment and, for the regulated market, the requirement for certification or approval of equipment and spare parts.³⁷

- (42) In view of the above, and considering all evidence available to it, the Commission concludes that, for the purpose of this Decision, the supply of equipment and after-sales servicing do not constitute distinct markets. In addition, considering that after-sales servicing directly derives from the supply of the original equipment and, consequently, the market power of a supplier of equipment will largely be mirrored in the after-market, the Commission will primarily assess the effects of the Transaction on the relevant markets at equipment level.³⁸

4.3. Relevant product markets

4.3.1. Introduction

- (43) Both Parties develop, manufacture, market, sell and service certain threat detection and security solutions. Morpho Detection supplies only a limited number of threat detection products, while Smiths has a broader portfolio.
- (44) Therefore, the Parties' activities essentially overlap in the supply of two types of threat detection equipment: (i) hold baggage EDS, and (ii) ETD. In addition, both Parties have pipeline projects regarding Explosive Detection Systems for cabin baggage ("cabin baggage EDS").
- (45) The Parties supply hold baggage EDS only to the regulated sector³⁹ and develop cabin baggage EDS principally for use by airports.⁴⁰ Therefore, only the supply of EDS to the regulated sector will be further considered in this Decision. By contrast, the Parties supply ETD to both the regulated and non-regulated sectors.
- (46) Apart from the three above-mentioned types of equipment (hold baggage EDS, cabin baggage EDS and ETD), Smiths supplies conventional checkpoint CXS machines for cabin baggage using X-ray technology. Morpho Detection also supplies checkpoint CXS machines in the EEA and worldwide, but any increment to Smiths' market share for CXS machines would remain well below 1% under

³⁷ See agreed minutes of conference calls with four competitors of 14, 15 and 20 September 2016, 04 and 17 October 2016. Smiths mentions as exceptions consumables for ETD that may be supplied by some third parties (not including the Parties), as well as companies, such as Siemens, SIEC and Lockheed Martin offering service and maintenance for threat detection equipment. Considering that competitors, distributors and end-users did not mention those exceptions to any large extent, they are not considered as questioning the general dependence of after-sales servicing on the original equipment.

³⁸ That approach is in line with the Commission's prior decision practice in other industries where independent after-market is determined by the circumstances of the original equipment market (see e.g. Case M.7538 – *Knorr Bremse / Vossloh*, recital 36). Nevertheless, the argument used in prior decisions regarding the comparable market shares of the Parties in the independent after-market and in the equipment supply would not directly apply to this Decision, to the extent that the after-market revenue of a year may relate to servicing of earlier generation equipment, not belonging to the relevant product markets.

³⁹ See Morpho Detection Market Reconstruction as sent by email on 26 September 2016 and Smiths Detection Market Reconstruction as amended by email on 22 November 2016. Smiths specifies in addition that, within the regulated sector, [commercial performance] (Form CO, paragraph 218).

⁴⁰ Form CO, paragraphs 559-560.

any plausible market definition.⁴¹ Moreover, Morpho Detection does not develop or manufacture CXS equipment, but purchases it from a third-party manufacturer.

- (47) In addition, Morpho Detection has developed a handheld radiation detector. Smiths currently offers a handheld radiation detector, [commercial performance] and [strategy].⁴²
- (48) Moreover, Morpho Detection has also developed a shoe-scanner which is not marketed for sales yet, while Smiths' portfolio does not include shoe-scanners.⁴³
- (49) Therefore, CXS, handheld radiation detectors and shoe scanners will not be further considered in this Decision, except to the extent relevant for the assessment of the risks of anti-competitive conglomerate effects (see Section 5.3 below).
- (50) Finally, [strategy] ETD that use a "next generation" technology, mass spectrometry,⁴⁴ whereas ETD currently marketed is mostly based on ion mobility spectrometry ("IMS") technology.⁴⁵ Neither Party has yet [product], while competitors such as [competitor] already market such products.⁴⁶
- (51) Smiths reckons that mass spectrometry ETD devices are more sensitive than ETD currently on the market for the detection of explosives and narcotics. Furthermore, the Parties anticipate that mass spectrometry ETD will be part of the next generation of ETD and that there will be a regulatory requirement within the EEA for airports to use mass spectrometry technology within the next [number] years. Nevertheless, Smiths indicates that whether mass spectrometry ETD will form a distinct market will depend on future regulatory requirements.⁴⁷
- (52) The Commission notes that the EU/ECAC standard currently applicable to ETD does not specify the technology to be deployed within ETD devices to fulfil the performance requirements. In addition, ECAC does not exclude that mass spectrometry-based ETD are tested as compliant with the EU/ECAC standard and therefore compete directly with ETD based on other technologies (mostly IMS).⁴⁸

⁴¹ Morpho Detection's estimated market share for checkpoint CXS machines did not exceed [0-5]% or [0-5]% any year between 2013 and 2015 at worldwide or EEA levels respectively. Form CO, paragraphs 544 to 547.

⁴² Form CO, paragraphs 111 to 113, in conjunction with Annex 6(2). Radiation detectors identify radioactive material and should not be confused with ETD using a radiation energy source, which are used to identify explosives and narcotics.

⁴³ Form CO, Annexes 6(1) and 6(2).

⁴⁴ Mass spectrometry takes a trace amount of a particular sample, breaks it into its constituent molecules and weighs each of the molecules to identify the compound at high speed and with a high degree of accuracy. Form CO, paragraph 553.

⁴⁵ IMS technology works by taking samples, vaporising the sample where necessary and ionising the molecules. The ionised compounds are then separated and identified on the basis of their mobility - the time it takes them to pass a fixed distance in a defined electric field. Form CO, paragraph 282.

⁴⁶ Form CO, paragraph 101. FLIR's ETD products are however not EU/ECAC certified.

⁴⁷ Form CO, paragraphs 98 to 100.

⁴⁸ See agreed minutes of a conference call with ECAC of 19 September 2016, paragraph 18. Even if feasible, the entry of FLIR in the market for the supply of ETD compliant with the EU/ECAC standard is unlikely for the commercial and economic reasons explained in Section 5.2.2, in

Therefore, there is no need to distinguish between the underlying technologies of ETD devices for the assessment of the supply of ETD to the regulated sector.

- (53) Conversely, Smiths considers that the Parties' ETD based on IMS compete with ETD based on other technologies, in particular mass spectrometry, for the supply of ETD to non-regulated customers.⁴⁹ The market investigation did not bring forward any material element that would contradict Smiths' assumption.⁵⁰ Therefore, competitors developing or using mass spectrometry technology are considered to be part of the same market as the Parties in the assessment of the supply of ETD to the non-regulated sector (see Section 5.2.3 below).⁵¹

4.3.2. *Hold baggage EDS*

- (54) Hold baggage EDS is used for the screening of the baggage that has been checked in by passengers to be stored in the hold of the aircraft at airports and, to a lesser extent, for the screening of small air cargo.

Smiths' views

- (55) According to Smiths, the market for the supply of hold baggage EDS should be segmented by technology, distinguishing between computed tomography ("CT") and X-ray. CT technology uses X-ray images taken around a single axis of rotation, generating a 3-D visual image of the contents of the baggage, while EDS X-ray uses X-ray images taken without rotation, producing less detailed data than EDS CT and only 2-D images.⁵² Smiths further submits that EDS CT and EDS X-ray differ in both efficiency and price: (i) EDS CT has a much lower false alarm rate and higher belt speed, and (ii) EDS CT typically costs approximately three times as much as an EDS X-ray.⁵³
- (56) In addition, Smiths submits that EDS X-ray no longer competes with EDS CT in the EEA since only EDS CT is able to meet the threat detection levels currently required by EU legislation. EU legislation requires that all EDS for primary hold baggage screening installed from 1 September 2014 onwards and all hold baggage EDS used at EEA airports by 1 September 2020 (or 1 September 2022 in

particular due to (i) the high market shares of Smiths and Morpho Detection; and (iii) the downward pressure on prices exerted by Implant Sciences (see agreed minutes of a conference call with a competitor of 05 October 2016, paragraph 5).

⁴⁹ Smiths identifies FLIR as one of the Parties' competitors in the non-regulated sector (Form CO, Tables 26-28 and 34, paragraph 467).

⁵⁰ See agreed minutes of a conference call with a competitor of 05 October 2016, paragraph 3: "*FLIR uses mass spectrometry technology for its Trace products and competes directly against Morpho's and Smiths' offering, based on IMS technology*".

⁵¹ Competitors confirmed during the Commission's market investigation that ETD based on mass spectrometry technology would compete directly against Morpho Detection's and Smiths' ETD based on IMS technology. Products based on mass spectrometry are however not EU/ECAC certified at this stage. See agreed minutes of the conference calls with competitors between 13 September and 29 November 2016.

⁵² Form CO, paragraph 225.

⁵³ Form CO, paragraph 231.

some limited cases) meet "EU/ECAC Standard 3".⁵⁴ In practice, according to Smiths, it is almost always EDS CT that is able to meet EU/ECAC Standard 3.⁵⁵

- (57) Finally, EU/ECAC Standards 3.1 and 3.2 for primary hold baggage screening have also been developed. While the content of these standards is classified information, defined at a high level, EU/ECAC Standard 3.1 would require detection of smaller quantities of explosives, while EU/ECAC Standard 3.2 would additionally require detection of home-made explosives.
- (58) Smiths does not believe that there are currently distinct markets for EU/ECAC Standard 3.1 compliant and/or EU/ECAC Standard 3.2 compliant equipment.
- (59) ECAC has prepared a Common Testing Methodology for EU/ECAC Standard 3.1, although no hold baggage EDS equipment has yet been validated against this standard. Smiths submits that meeting EU/ECAC Standard 3.1 requires updating software on existing EU/ECAC Standard 3 compliant EDS, rather than any hardware changes. Existing EU/ECAC Standard 3 compliant EDS would therefore not need to be replaced if EU/ECAC Standard 3.1 were to become mandatory, assuming the manufacturer was able to provide the software upgrade.⁵⁶
- (60) According to Smiths, ECAC has not agreed on a Common Testing Methodology for EU/ECAC Standard 3.2, and there is currently therefore no possibility of having equipment tested against this standard. Smiths believes that any testing against this standard is unlikely before 2018.⁵⁷

Commission's assessment

- (61) The Commission has not yet addressed any product market for hold baggage EDS.
- (62) The Commission considers that the demand for hold baggage EDS by EEA airports is mostly driven by compliance with EU regulation.⁵⁸ As a consequence,

⁵⁴ Paragraph 12.4.2 of the Annex to Commission Implementing Regulation (EU) 2015/1998 gives the following deadlines for the installation of hold baggage EDS equipment: "12.4.2.1 - All EDS installed before 1 September 2014 shall at least meet standard 2; 12.4.2.2 - Standard 2 shall expire on 1 September 2020; 12.4.2.3 - The appropriate authority may permit standard 2 EDS installed between 1 January 2011 and 1 September 2014 to continue to be used until 1 September 2022 at the latest; 12.4.2.4 - The appropriate authority shall inform the Commission when it grants permission to permit standard 2 EDS to continue to be used as of 1 September 2020; 12.4.2.5 - All EDS installed as from 1 September 2014 shall meet standard 3; 12.4.2.6 All EDS shall meet standard 3 as from 1 September 2020 at the latest, unless point 12.4.2.3 applies."

⁵⁵ Morpho Detection has also developed an EDS using XRD technology (similar to EDS CT) that meets the EU/ECAC standard 3 requirements, the XRD 3500. However, there have been [commercial performance] of the XRD 3500 in the EEA in the last three years. In addition, there is also one EDS X-ray that meets EU/ECAC Standard 3 requirements, the MV3D manufactured by L-3, a competitor of the Parties. The Parties however are not aware of any sales of this machine in the EEA. Form CO, paragraph 232(c).

⁵⁶ Form CO, paragraph 264.

⁵⁷ Form CO, paragraphs 264 and 271.

⁵⁸ See agreed minutes of the conference calls with two competitors of 15 and 20 September 2016, paragraph 10, and of 27 September 2016, paragraph 9.

there should be a separate market for the supply of hold baggage EDS compliant with EU/ECAC standards, irrespective of the underlying technology of the devices.⁵⁹

- (63) With regard to the upcoming EU/ECAC Standards 3.1 and 3.2, airports and central purchasing authorities indicate that they would purchase hold baggage EDS compliant with EU/ECAC Standards 3.1 and 3.2 in the coming three years if their application becomes mandatory.⁶⁰ In addition, some European airports plan to purchase hold baggage EDS compliant with EU/ECAC Standard 3.1 in the coming three years (or capable of being eventually upgraded from EU/ECAC Standard 3 to EU/ECAC Standard 3.1).⁶¹ However, competitors indicate that there is currently no significant demand for hold baggage EDS compliant with EU/ECAC Standard 3.1 and/or EU/ECAC Standard 3.2 for not being mandatory for the moment.⁶²
- (64) ECAC confirms that EU/ECAC Standards 3.1 and 3.2 are not compulsory yet. In addition, no hold baggage EDS equipment has yet been validated against EU/ECAC Standard 3.1, and no devices have yet gone through a testing procedure for EU/ECAC Standard 3.2.⁶³
- (65) Airport Council International Europe ("ACI Europe") also indicates that, although EU/ECAC Standards 3.1 and 3.2 are not mandatory, *"this may change once sufficient systems have been tested and found to meet such detection standards"*. However, according to ACI Europe *"any introduction of legislative deadlines related to the use of EU/ECAC Standards 3.1 and 3.2 for hold baggage EDS is likely to have very limit impact on the market because (i) most EDS equipment compliant with EU/ECAC Standard 3 is highly likely to meet EU/ECAC Standard 3.1 initially and EU/ECAC Standard 3.2 at a later date; and (ii) both EU/ECAC Standards 3.1 and 3.2 are software upgrades"* to hold baggage EDS compliant with EU/ECAC Standard 3.⁶⁴

⁵⁹ Should a market for hold baggage EDS CT be considered, a competitor to the Parties submits that multi-view and XRD technologies should not be included in the same market category as CT technology, since they are not capable of producing a tomographic reconstruction and offer a lower speed belt respectively (see agreed minutes of the conference calls with a competitor of 15 and 20 September 2016, paragraphs 7 and 8). However, the inclusion of EU/ECAC Standard 3 compliant hold baggage EDS based on multi-view and XRD technologies in the same market as EU/ECAC Standard 3 compliant hold baggage EDS CT would not have any material effect over the competitive assessment because of their low volume of sales.

⁶⁰ Replies to Q1, questions 8.1.2 and 8.1.3.

⁶¹ Replies to Q1, questions 8.1.2.1, and agreed minutes of a conference call with a competitor on 27 September 2016, paragraph 11.

⁶² See agreed minutes of the conference calls with two competitors of 15 and 20 September 2016, paragraph 12, and of 27 September 2016, paragraph 11.

⁶³ According to ECAC, *"the testing procedures for Standard 3.2 are still under development, so currently the Test Centres test equipment against Standard 3.1. ECAC already received requests for testing against Standard 3.2; those tests are expected to start in 2017"*. See agreed minutes of a conference call with ECAC on 19 September 2016 (Paragraph 14 in conjunction with Footnote 6).

⁶⁴ See response of ACI Europe of 06 October 2016 to the questions dated 19 September 2016, section 3.iv. ACI Europe conducted a preliminary survey among 71 of its airport members for the present merger investigation, in order to reply to questions that the case team had sent and required collecting data from its members.

- (66) Furthermore, some airports during the market investigation stated that they require, at the time of procurement of hold baggage EDS compliant with EU/ECAC Standard 3, that equipment may be upgraded to hold baggage EDS compliant with EU/ECAC Standards 3.1 and 3.2 during its lifetime.⁶⁵ Some competitors confirmed that certain airports already apply that requirement⁶⁶ and that they expect that hold baggage EDS compliant with EU/ECAC Standards 3.1 and 3.2 will be based on hold baggage EDS compliant with EU/ECAC Standard 3.⁶⁷
- (67) Therefore, there are strong indications that hold baggage EDS compliant with EU/ECAC Standard 3 are likely to comply with the upcoming EU/ECAC Standards 3.1 and 3.2 subject to non-hardware modifications and, consequently, that hold baggage EDS compliant with EU/ECAC Standards 3, and possibly 3.1 and 3.2, are part of one single market.

Conclusion

- (68) In view of the above, and considering all evidence available to it, the Commission considers that the relevant product market is the supply of hold baggage EDS compliant with EU/ECAC Standard 3 to the regulated sector, including after-sale and maintenance services, without distinction based on technology.⁶⁸

4.3.3. ETD

- (69) ETD is a sampling and analysis technique to detect and identify explosives and narcotics in very small quantities. ETD devices are sold in two main formats:⁶⁹ (i) desktop devices, which analyse swabs taken from surfaces, such as baggage handles or a person's hands; and (ii) handheld devices which are used for a manual sweep of people or baggage.

Smiths' views

⁶⁵ See for example reply of an airport to Q1, question 8.1.2.1: "*Purchasing standard three based on EU requirements but will require vendor to guarantee that the equipment will be upgradeable to standard 3.1 or 3.2.*"

⁶⁶ See agreed minutes of a conference call with a competitor on 27 September 2016, paragraph 11: "*The possibility of upgrading the current EDS devices into EU/ECAC Standards 3.1 and 3.2 has actually been a requirement in a number of tenders (...).*"

⁶⁷ See agreed minutes of the conference calls with a competitor on 15 and 20 September, paragraph 13: "*In any case, [...] submits that products compliant with Standards 3.1 and 3.2 will most likely be based on those currently compliant with Standard 3.*" See also agreed minutes of a conference call with a competitor on 27 September 2016, paragraph 11: "*[...] is working towards meeting EU/ECAC Standards 3.1 and 3.2 for hold baggage EDS by updating their current Standard 3 algorithm.*"

⁶⁸ The Commission notes that, in any case, the definition of a distinct market for hold baggage EDS CT as proposed by Smiths would not significantly differ from the definition by the Commission of a distinct market for hold baggage EDS compliant with EU/ECAC Standard 3, as the large majority of hold baggage EDS compliant with EU/ECAC Standard 3 is based on CT technology.

⁶⁹ ETD devices also exist in a third format, walk-through portals. Only Morpho Detection manufactures and sells walk-through ETD portals, which are used to detect explosives and narcotics traces on people in critical infrastructure applications (power stations). Morpho Detection achieves [commercial performance] for such portals and no other manufacturer (including Smiths) supplies or develops such portals (Form CO, footnote 65).

- (70) Smiths considers that ETD devices constitute a distinct product market, without the need to sub-divide further between desktop and handheld devices.⁷⁰ In particular, Smiths argues that (i) from the supply side, handheld devices use the same technology as desktop devices, (ii) handheld equipment performs the same function as desktop equipment and has detection performance competitive with desktop equipment, (iii) there are examples of regulated airport customers in the EEA purchasing handheld devices to use as alternatives to desktop devices, and (iv) prices of desktop and handheld devices have converged over time.⁷¹ However, Smith acknowledges that the previous lack of EU/ECAC certification for handheld devices means that air transportation customers in the EEA have historically been limited to use of desktop devices.⁷²

⁷⁰ Form CO, paragraph 301.

⁷¹ Smiths' reply to RFI 2 of 29 November 2016, submission on "Non-regulated Trace Sector", paragraph 5.

⁷² Form CO, paragraph 301.

Commission's assessment

- (71) The Commission has not yet addressed any market for ETD.
- (72) All respondents interviewed during the Commission's market investigation confirm that ETD devices constitute a distinct product market within the supply of threat detection equipment.⁷³
- (73) As regards the substitutability between desktop and handheld devices, in view of the distinction between the regulated sector (air transportation) and the non-regulated sector (other industries) described in Section 4.2.1 above, the Commission will assess substitutability between formats for these two sectors separately.
- (74) First, for the regulated, air transportation sector, a majority of respondents to the Commission's market investigation confirm that the demand of ETD to be deployed in airports is driven by compliance with the requirements set out in EU legislation (the "EU/ECAC Standard").⁷⁴
- (75) As a consequence, the Commission considers there should be a separate market for the supply of ETD compliant with the EU/ECAC Standard to the regulated sector. A distinction by format within this product market would not alter the Commission's conclusion, insofar as in practice, up to September 2016 when one handheld device was validated under the ECAC CEP as compliant with the EU/ECAC Standard, only desktop devices were deemed compliant and sales of handheld ETD to the regulated sector in the EEA have so far been limited.⁷⁵
- (76) Second, as to ETD to be deployed outside of airports, the Commission assesses in turn supply side and demand side substitutability between desktop and handheld devices.
- (77) On the supply side, as regards Smiths' argument that handheld equipment uses the same technology as desktop devices, the Commission notes that internal documents of the Parties would indeed confirm that the same basic technology would be deployed in both ETD formats. As an example, Smiths' technology roadmap for ETD products dated April 2016 indicates that both desktop and handheld ETD are currently based on IMS technology, "[strategic information]".⁷⁶

⁷³ See agreed minutes of the conference calls with competitors, customers and regulators between 13 September and 29 November 2016.

⁷⁴ EU/ECAC requirements for ETD used in the screening of passengers, hold baggage and cabin baggage in airports – as well as air cargo – came into force on 1 September 2015. See agreed minutes of the conference calls with competitors and customers between 13 September and 29 November 2016; and replies to Q1, question 3.2.

⁷⁵ See the list of ETD equipment which has been tested under the CEP framework and meets the EU/ECAC Standard, available at: <https://www.ecac-ceac.org/documents/10189/62763/ECAC-CEP-ETD-Web-Update-1-December-2016.pdf/8ffcbe76-aab9-4b34-b72c-a23560f360c2>. Moreover, it is not expected that demand in handheld ETD compliant with the current EU/ECAC Standard will significantly increase in the short to medium term.

⁷⁶ Parties' reply to QP4, Annex QP4(Q25a(ix)).

- (78) However, the Commission also notes that the same technology roadmap analyses desktop and handheld ETD distinctly. For desktop ETD, Smiths drives its product development based on its perception of the following market demands: "[strategic information]". For handheld ETD, Smiths indicates that "[strategic information]".⁷⁷ The Commission remarks that these identified needs appear different, with a focus on "[strategic information]" threat libraries for desktop ETD but a "[strategic information]" library for handheld ETD for instance. In the same document, Smiths highlights that there exists a "[strategic information]" for its current handheld devices: "[strategic information]".
- (79) Similarly, Morpho Detection's management presentation dated January 2016 distinguishes between desktop and handheld ETD when describing potential applications, as can be seen in the figure below.⁷⁸ In particular, both ETD formats would share certain applications such as the "[strategic information]" (which is consistent with the Commission's view that a distinction between formats is not relevant for the regulated sector), but not all applications are common and, in particular, handheld devices allow for "[strategic information]" .

"[Strategic information]"
Source: Form CO, Annex 5(1)(ii), slide 42

- (80) The Commission therefore concludes on the supply side that while currently the two formats of ETD equipment are generally based on the same IMS technology, in their current state of development they still appear to require some distinct development to address specific customer needs, especially for sales to the non-regulated sector.
- (81) On the demand side, which is key for the ETD market definition,⁷⁹ a majority of respondents to the market investigation for the non-regulated sector indicate that desktop and handheld devices should be distinguished. A majority of customers state that at the time of purchase of ETD, the ETD device format to be purchased is generally specified (only desktop ETD or only handheld ETD).⁸⁰
- (82) Smiths argues that similar evidence of ordering behaviour cannot be taken to indicate a lack of substitutability between handheld and desktop devices: (i) by the time the Parties become aware of a customer order, or a request for proposal, the customer identifies the specific model it requires, not just the format of the device, but (ii) before a particular product has been identified, there are also generally informal conversations with sales representatives which may cover suitability and pricing of both handheld and desktop devices. However Smiths' argument is not supported by the market investigation insofar as a majority of non-regulated customers consider that desktop and handheld devices are not interchangeable.⁸¹

⁷⁷ ETD's energy source to ionise the compounds can be either radioactive or non-radioactive material (referred to respectively as "rad" and "non-rad" energy source).

⁷⁸ Form CO, Annex 5(1)(ii).

⁷⁹ Commission Notice on the definition of the relevant markets for the purposes of Community competition law, OJ 97/C 372/03, paragraphs 13 and 14.

⁸⁰ Replies to Q2, question 3.

⁸¹ Replies to Q2, question 10.

- (83) For completeness, airports which responded to the Commission's market investigation similarly do not confirm Smiths' views that handheld ETD may perform the same function as desktop ETD and have detection performance competitive with it for regulated customers. They do not confirm either that there are examples of regulated airport customers in the EEA purchasing handheld products to use as alternatives to desktop devices. Indeed, airports which responded to the Commission's market investigation, and in particular those indicated by the Parties as having purchased both desktop and handheld ETD in 2013-2015,⁸² do not generally consider desktop and handheld interchangeable.⁸³ These airports also confirm that they have neither purchased ETD non-compliant with the EU/ECAC Standard in the last two years (e.g. non-certified handheld or desktop devices, for their operational use, going over and beyond the requirements of EU regulations) nor intend to purchase such equipment in the next three years.⁸⁴
- (84) Finally, the Parties have also provided estimates of their average price for each of their desktop and handheld ETD devices to the non-regulated sector in 2015, at the worldwide and EEA levels.⁸⁵ The Commission remarks that, while prices of desktop and handheld devices may well have converged in recent years, there remain differences in price formation mechanisms between formats: (i) the Parties themselves recognize that despite handheld devices typically exhibiting lower published prices than those for desktop devices, manufacturers often provide [strategy] to customers choosing desktop devices,⁸⁶ and (ii) the data provided by the Parties indicate on average⁸⁷ higher unit prices for desktop devices than for handheld devices for both Smiths and Morpho Detection.
- (85) Therefore, in light of the considerations on both supply side and demand side substitutability, the Commission considers that desktop and handheld ETD constitute distinct markets in the non-regulated sector.

Conclusion

- (86) In view of the above, and considering all evidence available to it, the Commission considers that the relevant product markets for the assessment of the Transaction are (i) the supply of ETD compliant with the EU/ECAC Standard to the regulated sector, including after-sales and maintenance services; and (ii) the supply of ETD to the non-regulated sector, including after-sales and maintenance services, distinguishing between desktop and handheld devices as distinct markets.

⁸² Smiths' reply to RFI 5 of 02 December 2016, paragraph 4.19(a).

⁸³ Replies to RFI to airports of 8 December 2016.

⁸⁴ In particular, no ETD equipment purchased after 1 September 2014 would be non-compliant (reply of ACI Europe to RFI of 08 December 2016).

⁸⁵ Smiths' reply to RFI 5 of 02 December 2016, Tables 1 and 2.

⁸⁶ Smiths' reply to RFI 5 of 02 December 2016, paragraph 4.22.

⁸⁷ This average is not weighted, as it does not take into account the number of units sold for each product and shows that one particular desktop product may be priced lower than one particular handheld product whose specifications might be more complete. Nevertheless, this would remain an indicator of the price positioning of the two formats.

4.3.4. Cabin baggage EDS

- (87) After checking in their hold baggage, passengers at airports proceed to the checkpoints where they and their cabin baggage are screened. Screening of cabin baggage in the EEA is currently usually carried out by conventional X-ray systems, which are controlled by a human operator who reviews an X-ray image.
- (88) In November 2015, four standards for cabin baggage EDS were introduced in EU legislation by reference to the types of items that can be screened without being removed from cabin baggage: (i) C1 – liquids and large electronic items must be removed; (ii) C2 – large electronic items can be left in cabin baggage but liquids must be removed; (iii) C3 – large electronic items and liquids can be left in cabin baggage;⁸⁸ and (iv) C4 – requiring a larger threat list, lower threat quantities and lower false alarm rate than C3 ("EU/ECAC Standards C1, C2, C3 and C4").⁸⁹
- (89) Those standards are currently not mandatory.⁹⁰ However, airports may elect to deploy cabin baggage EDS on a voluntary basis.⁹¹ In addition, ECAC has been testing cabin baggage EDS against EU/ECAC Standards C1-C3⁹² since July 2016. The first results of the compliance tests were released by ECAC on 19 December 2016. The list of compliant equipment only contains one cabin baggage EDS model, manufactured by Smiths and fulfilling EU/ECAC Standard C1.⁹³

Smiths' views

- (90) According to Smiths, the supply of cabin baggage EDS compliant with EU/ECAC Standard C3 should be treated as a distinct market from (i) hold baggage EDS, (ii) ETD,⁹⁴ and (iii) cabin baggage EDS compliant with EU/ECAC Standards C1-C2, since it is likely that EU/ECAC Standard C3 will only be achievable by CT or similar technologies (such as XRD), while EU/ECAC Standards C1 and C2 may be achieved by X-ray technology which is much less costly.⁹⁵

⁸⁸ A cabin baggage EDS which complies with EU/ECAC Standard 3 is expected to increase the throughput rate at the checkpoint, since liquids and large electrical items do not need to be removed from cabin baggage prior to screening.

⁸⁹ Paragraph 12.4.2 of the Annex to Commission Implementing Regulation (EU) 2015/1998.

⁹⁰ EU legislation does not currently contain any deadline for EEA airports to deploy cabin baggage EDS compliant with Standards C1-C4, contrary to hold baggage EDS or ETD.

⁹¹ See response of ACI Europe of 06 October 2016 to the questions dated 19 September 2016, section 1.v: "Nearly all European airports are waiting for the results of the EU/ECAC detection tests before making a decision on whether to buy EDS CB (C1 – C3)."

⁹² No testing protocols have yet been developed for EU/ECAC Standard C4.

⁹³ <https://www.ecac-ceac.org/documents/10189/62763/ECAC-CEP-EDSCB-Web-Update-19-December-2016.pdf/ca96d69a-2bdf-407d-9686-89ada9624440>

⁹⁴ Form CO, paragraph 563.

⁹⁵ Form CO, paragraph 564.

Commission's assessment

- (91) The Commission has not yet addressed any market for cabin baggage EDS.
- (92) Under EU legislation, cabin baggage EDS is defined as a method of screening of cabin baggage, different from X-ray equipment or ETD.⁹⁶ In addition, contrary to hold baggage EDS or ETD, EEA airports are currently not required under EU legislation to use cabin baggage EDS.⁹⁷ Nevertheless, some airports have already purchased cabin baggage EDS or are contemplating to do so in the next three years, either to anticipate the regulatory requirement to install equipment compliant with EU/ECAC Standards C1-C4 or to improve passengers' experience or throughput.⁹⁸
- (93) The results of the market investigation are inconclusive as to whether cabin baggage EDS compliant with EU/ECAC Standard C3 should be distinguished from equipment compliant with lower standards (EU/ECAC Standards C1 or C2).
- (94) First, pending the mandatory application (if any) of EU/ECAC Standards C1-C4, there is no regulatory obstacle to using either of EU/ECAC Standard C1, C2 or C3 compliant EDS for cabin baggage screening.
- (95) Second, some competitors and customers indicate that EU/ECAC Standards C1 and C2 may be obtained by X-ray technology while EU/ECAC Standard C3 would not, resulting in a significant price gap.⁹⁹ Nevertheless, certainty will not be obtained until deployment of equipment that would be listed by ECAC as compliant with EU/ECAC Standards C1, C2 and C3.¹⁰⁰

⁹⁶ Paragraph 4.1.2.3 of the Annex to Commission Implementing Regulation (EU) 2015/1998.

⁹⁷ Replies to Q1, question 8.3 and sub-questions.

⁹⁸ Replies to Q1, questions 1, 8.3.1 and 8.3.2. See also agreed minutes of a conference call with an EEA airport of 11 October 2016, paragraph 11; agreed minutes of a conference call with ECAC of 19 September 2016, paragraph 22: "*Compliance with those standards is currently not compulsory. However, if airport operators have to procure following the publication of the list of successfully tested equipment, they will be encouraged to purchase C1 compliant equipment. Indeed, compliance with C1 is evidence of improved quality, i.e. (i) higher security performance, (ii) improved passenger performance, and (iii) higher through-put.*"; and agreed minutes of a conference call with a competitor of 03 October 2016: "*[...] considers that there is already a demand for Standard C 1, 2 & 3 compliant checkpoint systems, with an initial transition occurring by 2018.*"

⁹⁹ See agreed minutes of a conference call with a competitor of 04 October 2016, paragraph 8: "*[...] considers that it can reach EU/ECAC Standards C1 and C2 with both single view and dual view technologies, although the price for each technology differs*" and response of ACI Europe of 06 October 2016 to the questions dated 19 September 2016, section 1.v: "*The new EU/ECAC standards for EDS CB (C1 – C4) can only be achieved by either dual/multiview x-rays or computer tomography (CT) x-ray machines. These standards cannot be achieved by a single view x-ray machine*" and "*The outline price of x-ray machines is as follows: Single view x-ray 40,000 EUR / Dual/Multiview x-ray 100,000 – 160,000 EUR / CT x-ray 250,000 EUR*".

¹⁰⁰ See agreed minutes of two conference calls with a competitor of 15 and 20 September 2016, paragraphs 14-15: "*uncertainty remains as to whether and when EU/ECAC Standard C may become compulsory and which technology would be required to meet EU/ECAC Standard C*", "*[...] believes that OEMs will offer different technologies to meet the different requirements.*" The cabin baggage EDS listed as compliant by ECAC (Smiths' HI-SCAN 6040aTiX) is based on X-ray technology. However, it is insufficient to form a view, as it is the only device having been positively tested so far and it complies only with EU/ECAC Standard C1.

- (96) Third, some competitors regard EU/ECAC Standard C3 compliant equipment as a distinct product¹⁰¹ and, among airports responding during the market investigation that they plan to purchase cabin baggage EDS compliant with EU/ECAC Standard C in the coming three years, some would specifically require cabin baggage EDS compliant with EU/ECAC Standard C3.¹⁰² Nevertheless, most of them do not currently express a demand for cabin baggage EDS compliant with a specific EU/ECAC standard.¹⁰³
- (97) However, for the purpose of this Decision, the question of whether the market for the supply of cabin baggage EDS compliant with EU/ECAC Standard C3 should be distinguished from the market for the supply of cabin baggage EDS compliant with EU/ECAC Standards C1-C2 can be left open, as the Transaction would not raise serious doubts as to its compatibility with the internal market under any of the two plausible definitions.
- (98) Morpho Detection develops a cabin baggage EDS only for commercialisation as EU/ECAC Standard C3 compliant equipment. Therefore, the competitive assessment will be carried out in this Decision in relation to (i) cabin baggage compliant with EU/ECAC Standards C1, C2 or C3; and (ii) cabin baggage compliant with EU/ECAC Standard C3.

Conclusion

- (99) In view of the above, and considering all evidence available to it, the Commission considers that it is not necessary to decide on the exact definition of the product market for the supply of cabin baggage EDS compliant with EU/ECAC Standards C to the regulated sector, including the potential distinction between EU/ECAC Standards C1-C2 and EU/ECAC Standard C3, as the Transaction does not raise serious doubts as to its compatibility with the internal market under any of the two plausible definitions.

4.4. Relevant geographic markets

4.4.1. Introduction

- (100) As indicated in Section 4.2.1.1, the Union legal requirements and the adhesion of all EEA Member States to the ECAC CEP create homogeneous conditions for the supply of threat detection equipment to the regulated sector, although approval or

¹⁰¹ See agreed minutes of a conference call with a competitor of 27 September 2016: *"the market for checkpoints is moving towards CT, with new Standard C-3 coming out in the EU (currently under testing and in pilot programmes)"* and *"Although the demand for Standard C3 checkpoint will eventually grow, airports are still not ready to acquire this technology."*

¹⁰² Replies to Q1, question 8.3.1. Compliance with EU/ECAC Standard C3 is also the most important criterion for the choice of a supplier according to respondents to the market investigation planning to purchase cabin baggage EDS compliant with EU/ECAC Standard C (replies to Q1, question 10.3).

¹⁰³ Replies to Q1, question 8.3.1. See also agreed minutes of a conference call with an EEA airport of 11 October 2016, paragraph 11 and response of ACI Europe of 06 October 2016 to the questions dated 19 September 2016, section 1.v: *"It is expected that small and many medium size airports will opt for EDS CB C1 or EDS CB C2, while large airports are likely to opt for EDS CB C3. There are too many unknowns to generate any reliable figures for future sales."*

certification of such equipment currently remains the responsibility of the appropriate authority for aviation security designated by each EEA Member State.

- (101) Therefore, for the purpose of this Decision and subject to the more detailed explanations in Sections 4.4.2, 4.4.3.1 and 4.4.4, the relevant markets for the supply of threat detection equipment to the regulated sector would be defined as EEA-wide.
- (102) The homogeneity of the competitive conditions at EEA level is not questioned by the provision at local level of after-sales servicing, which, as indicated in Section 4.2.2, is defined for the purpose of this Decision as being part of the same market as the supply of equipment. Indeed, as explained by Smiths, basic servicing and maintenance can be carried out by contractors (typically local partners, distributors or authorised agents) and only more complex servicing and maintenance (in the case of EDS) can be carried out by the manufacturer's personnel.¹⁰⁴ Respondents to the market investigation confirm that (i) manufacturers that do not have an installed base large enough to deploy their own staff to service equipment rely on authorised third parties (partner, distributor or agent) to maintain their own equipment;¹⁰⁵ as a consequence, the possible barriers to provide after-sales services are not higher than those to find access to local distribution for equipment; and (ii) such an organisation involving local intermediaries may be less efficient for the manufacturer but, considering the relative ease to find local distributors or authorised service providers, it lowers the barriers to enter or expand in other countries.¹⁰⁶
- (103) In this context, the geographic market for each of hold baggage EDS, regulated and non-regulated ETD and cabin baggage EDS are addressed below.

4.4.2. *Hold baggage EDS*

- (104) Smiths submits that, since hold baggage EDS is used exclusively in air transportation applications (i.e. the regulated sector), the relevant geographic market for hold baggage EDS is EEA-wide.¹⁰⁷
- (105) The Commission has not yet addressed any geographic market for hold baggage EDS.
- (106) Respondents to the market investigation confirm that the competitive conditions and technical specifications for the supply of hold baggage EDS for use in the air transportation industry are homogeneous in the EEA.¹⁰⁸ Competitors also confirm that competition for hold baggage EDS takes place at EEA level.¹⁰⁹

¹⁰⁴ Form CO, paragraph 313(g) and paragraph 643.

¹⁰⁵ See agreed minutes of a conference call and an interview with two competitors of 13 September 2016, paragraph 11, and of 22 September 2016, paragraph 20.

¹⁰⁶ See agreed minutes of a conference call with a competitor of 27 September 2016, paragraphs 14 and 15.

¹⁰⁷ Form CO, paragraph 318.

¹⁰⁸ The list of certified or approved hold baggage EDS drawn up by the contacted national certification authorities mirror in practice the list of EU/ECAC Standard 3 compliant hold baggage EDS published by ECAC. See agreed minutes of a conference call with ECAC of 19 September

(107) In view of the above, and considering all evidence available to it, the Commission considers that, for the purpose of this Decision, the market for the supply of hold baggage EDS compliant with EU/ECAC Standard 3 to the regulated sector is EEA-wide.

4.4.3. ETD

(108) The Commission has not yet addressed any geographic market for ETD.

4.4.3.1. Supply of ETD compliant with the EU/ECAC Standard to the regulated sector

(109) Smiths submits that there are several factors which indicate that the geographic market for the supply of ETD to the regulated sector is broader than national, pointing towards a market that is EEA-wide, such as in particular (i) the use of ETD for air transportation in the EEA is regulated, (ii) the supply of ETD is predominantly cross-border with no domestic production capability in many Member States, (iii) the same products are sold throughout the EEA, and beyond.¹¹⁰

(110) On the supply side, in the Commission's market investigation, ECAC and national certification authorities confirm that they substantially rely on the ECAC CEP for certification of ETD for use in air transportation.¹¹¹ The Commission further notes that suppliers whose equipment is certified are generally active EEA-wide (directly or indirectly through distributors), as appears from the list of suppliers which replied to requests for proposal or calls for tender of airports having purchased EU/ECAC Standard compliant ETD in the last two years.¹¹² On the demand side, airports indicate that ETD is generally procured through EEA-wide open calls for tenders, under public procurement rules.¹¹³

(111) In view of the above, and considering all evidence available to the Commission, the Commission considers that, for the purpose of this Decision, the market for the supply of ETD compliant with the EU/ECAC Standard to the regulated sector is EEA-wide.

2016 and of the calls with three certification authorities of 18 October, 4 November and 7 November 2016.

¹⁰⁹ See agreed minutes of an interview and a conference call with two competitors of 22 September 2016, paragraph 13, and of 27 September 2016, paragraph 9. In the latter, the competitor notes that "*once an EDS equipment has been listed as EC/ECAC compliant, the product is ready to be sold throughout Europe*".

¹¹⁰ Form CO, paragraph 313.

¹¹¹ See agreed minutes of a conference call with ECAC of 19 September 2016 and of calls with three certification authorities of 18 October, 4 November and 7 November 2016.

¹¹² Replies to Q1, question 4.2.

¹¹³ Replies to Q1, question 2.

4.4.3.2. Supply of ETD to the non-regulated sector

- (112) For the supply of ETD equipment to the non-regulated sector, Smiths argues that competition is worldwide, with customers choosing between suppliers located around the world and suppliers selling globally.¹¹⁴
- (113) In the Commission's market investigation, a majority of customers and distributors active in the non-regulated sector confirm that manufacturers of ETD compete worldwide.¹¹⁵ In addition, a majority of non-regulated customers consider that the nationality of the manufacturer is deemed to be a relatively unimportant criterion in the choice of ETD suppliers, as compared to the format of the device (desktop or handheld), the unit price of equipment or other technical performance criteria.¹¹⁶
- (114) In view of the above, and considering all evidence available to it, the Commission considers that, for the purpose of this Decision, the market for the supply of ETD to the non-regulated sector is worldwide.

4.4.4. Cabin baggage EDS

- (115) Smiths does not specifically address the geographic scope of the market for the supply of cabin baggage EDS. Nevertheless, Smiths submits that the relevant geographic market for the supply of threat detection products to the regulated sector is wider than national but not wider than the EEA.¹¹⁷
- (116) The Commission has not yet addressed any geographic market for cabin baggage EDS.
- (117) The market investigation does not provide any element justifying that the geographic market for cabin baggage EDS deviates from the geographic market for the other two products supplied to the regulated sector (hold baggage EDS and ETD compliant with the EU/ECAC Standard).
- (118) In view of the above, and considering all evidence available to it, the Commission considers that, for the purpose of this Decision, the market for the supply of cabin baggage EDS compliant with EU/ECAC Standards C to the regulated sector is EEA-wide.

5. COMPETITIVE ASSESSMENT

5.1. Methodology for calculating market shares

- (119) Due to a lack of publicly available third party estimates for the total supply and competitors' shares for EDS and ETD, Smiths relies on third-party available data covering the supply of explosives detection equipment (two IHS reports¹¹⁸) and

¹¹⁴ Smiths' reply to RFI 2 of 29 November 2016.

¹¹⁵ Replies to Q2, question 11.

¹¹⁶ Replies to Q2, question 9.

¹¹⁷ Form CO, paragraphs 321-322.

¹¹⁸ Form CO, paragraph 331 and following and Annexes 6(12), 7(5) and 7(6). The IHS reports "*The Market for Explosives, Weapons and Contraband Detection Equipment – 2014*" and "*Explosives,*

their own market intelligence as a basis to build revenue and unit market share estimates for the Parties and their competitors.¹¹⁹

- (120) Smiths argues that for both revenue and unit share estimates, there is a high level of volatility and that historical market shares cannot be relied on for predictions of future market success, due in particular to the fact that shares in a bidding market are subject to significant variations throughout the years.¹²⁰
- (121) In particular to address the market's high volatility and the recent mandatory application of new EU/ECAC standards for hold baggage EDS and ETD sold to airports (2014 and 2015 respectively), the Parties also submit their market shares based on the number of units tendered by airports from 2013 to first half 2016. For hold baggage EDS, this approach also solves the discrepancies in the dates of recognition of revenue or orders in the Parties' and their competitors' accounts and order books, in particular for hold baggage EDS already ordered but not yet delivered, installed or paid.
- (122) In addition to the estimates provided by the Smiths, the Commission has also undertaken a market reconstruction for EDS and ETD sales, by asking the Parties and their competitors to provide their actual sales in the EEA and worldwide, covering both equipment sales and order book from 2011 until October 2016.¹²¹

Weapons and Contraband Detection Equipment – World 2016" provide a range of data on the market for explosives, weapons and contraband detection equipment, based on information gathered from suppliers as well as forecasts. The Commission has accepted IHS as data source for market shares in its past practice in the IT infrastructure sector (e.g. M.7678 - *EQUINIX / TELECITY*).

¹¹⁹ As described in Section 4.2.2 above, the Commission considers that after-sales servicing directly derives from the supply of the original equipment. Therefore, and also taking into account the lack of public data on after-sales, the Commission will assess the market shares of the Parties and their competitors based on sales of equipment in the respective product markets where they are active.

¹²⁰ Form CO, paragraph 365.

¹²¹ The Commission aimed at gathering the respective companies' figures for sales of EDS and ETD and more concretely, the worldwide and EEA total revenue figures and number of units in the 2011-2015 period resulting from:

(i) sales of EDS, sales of EDS CT (including EDS equipment based on other technologies offering a level of detection similar to that of CT such as X-ray Diffraction (XRD) or non-rotating multi-ray technology), sales of EU/ECAC Standard 3 compliant EDS CT, and sales of other EDS (EDS equipment based on other technologies than CT or than technologies offering a similar level of detection, such as non-rotating X-ray technologies with one to three rays) to all industries and to the aviation sector (airports and air cargo customers, with air cargo customers including shippers, freight-forwarders, carriers, and third-party service companies using threat detection equipment to screen parcels and other cargo transported via air);

(ii) after-market (sales of services (e.g. maintenance, inspections, repair, upgrading), spare parts and consumables after the original sale of equipment) for own EDS equipment and for third party EDS equipment;

(iii) sales of ETD, sales of desktop ETD, sales of handheld ETD and sales of EU/ECAC Standard compliant ETD to all industries and to the aviation sector;

(iv) after-market for own ETD equipment and for third party ETD equipment.

The Commission also aimed at gathering all equivalent data by product for all orders (whether the contract is signed or not) comprised in the Parties' and their competitors' order books at 31 December 2015 and from 1 January 2016 to 1 October 2016. Finally, the Commission completed the data received from responses to its market reconstruction exercise by data obtained during its conference calls with the Parties' competitors.

- (123) For the competitive assessment of the market for EU/ECAC Standard 3 compliant hold baggage EDS, the Commission will therefore assess the Parties' shares based both (i) on the number of units tendered by airports from 2013 to first half 2016 as estimated by the Parties, as well as (ii) the number of units ordered by air transportation customers from the Parties and their competitors from 2013 to October 2016 as derived from the Commission's market reconstruction.
- (124) As regards the supply of ETD compliant with the EU/ECAC Standard to the regulated sector, the Commission notes that 2015 is the year when the majority of purchases took place due to the demand increase as a result of the regulatory deadline for the deployment of standard compliant equipment. The Commission therefore considers that 2015 should serve as the reference year to assess the Parties' market position and it will also assess both revenue and unit shares (i) as estimated by the Parties and (ii) as derived from the market reconstruction.
- (125) Finally, for the competitive assessment of the non-regulated sector, since the above-described volatility features do not appear, the Commission considers that the Parties' and their competitors' shares in the market for the supply of ETD to non-aviation users can be determined on the basis of annual sales in the last full year (2015) (i) as estimated by the Parties and (ii) as derived from the market reconstruction. Where relevant, and in particular as regards revenue and unit shares, the Commission also considers data starting in 2013 to complement its competitive assessment.

5.2. Horizontal effects

5.2.1. Hold baggage EDS

5.2.1.1. Overview of the market and market shares

- (126) There are currently seven manufacturers of Standard 3 compliant hold baggage EDS on the list established by ECAC under the CEP: L-3 (since 2011), Morpho Detection (since 2010), Nuctech (since 2012), Rapiscan (since 2012), Reveal Imaging Technologies (part of the Leidos group, further "Reveal") (since 2010), Smiths (since 2012), and SureScan (since 2015).¹²²
- (127) According to Smiths, the market shares of the Parties and their competitors would be the following:

¹²² For SureScan, the ECAC list only contains one product and one configuration: <https://www.ecac-ceac.org/documents/10189/62763/ECAC-CEP-EDS-Web-Update-29-November-2016.pdf/03537ea5-6832-4ce2-bcc2-723c235ac933>

Table 1: EDS CT – EEA shares of units tendered, 2013-H1 2016

Supplier	Units	Share (%)
Smiths	[30-40]	[5-10]%
Morpho Detection	[130-140]	[30-40]%
<i>Combined</i>	<i>[160-170]</i>	<i>[40-50]%</i>
L-3	[30-40]	[10-20]%
Nuctech	[0-5]	[0-5]%
Rapiscan	[140-150]	[40-50]%
Reveal	[5-10]	[0-5]%
Total	[350-360]	100%

Source: Parties' estimates¹²³

- (128) The Parties' combined market share at EEA level for EDS CT amounts to [40-50]% based on units tendered between 2013 and first half 2016.
- (129) Smiths estimates that (i) the competing manufacturers L-3 and Rapiscan achieved higher sales than the Parties' combined sales throughout the years 2013 to 2015, as they together accounted for approximately [50-60]% of the market over that period; and (ii) Smiths has a small presence in the market for hold baggage EDS, adding an increment of only [0-5]% to Morpho Detection's market share in 2015 based on revenue.¹²⁴ With regard to the Parties' combined market share based on units tendered, Smiths believes that, while the Parties have reasonably good visibility of EDS CT tenders, there are likely some smaller tenders having been won by other competitors in which the Parties did not participate and of which they are not aware. This is therefore likely to result in overestimated market shares for the Parties.¹²⁵
- (130) Although the market reconstruction exercise cannot be fully compared to the estimates by Smiths for following a different methodology and time frame,¹²⁶ the Commission considers that the Parties' position is in reality slightly stronger than the one assumed by Smiths with regard to the supply of hold baggage EDS compliant with EU/ECAC Standard 3.¹²⁷ Both the market share estimates provided by Smiths and the ones obtained through the Commission's market

¹²³ Computed by the Commission by aggregating the number of units tendered over the 2013 – H1 2016 period as indicated in the Form CO, Table 23 (includes the EEA and Switzerland). Out of the [350-360] units tendered in the EEA, [160-170] units ([40-50]%) were tendered from Smiths or Morpho Detection. If market shares are calculated on the basis of aggregated revenue (sales) from the years 2013 to 2015, the Parties' combined market share at EEA level for EDS CT would amount to [20-30]% (Form CO, Table 14).

¹²⁴ Form CO, paragraph 333.

¹²⁵ Form CO, paragraph 364.

¹²⁶ The results of the market reconstruction are based on the number of units ordered between 2013 and October 2016. Smiths' estimates are based on the number of units tendered between 2013 and the first half of 2016.

¹²⁷ If market shares are calculated on the basis of aggregated revenue (sales) from the years 2013 to 2015, the Commission's market reconstruction for hold baggage EDS compliant with EU/ECAC Standard 3 results in a combined market share for the Parties slightly lower than the one reported on by Smiths.

reconstruction converge to show that Rapiscan and L-3¹²⁸ are the main competitors to the Parties for the supply of hold baggage EDS in the EEA and that the three other manufacturers of EU/ECAC Standard 3 compliant hold baggage EDS (Nuctech,¹²⁹ Reveal¹³⁰ and SureScan) are still to achieve material sales.

- (131) Finally, the market investigation reveals that the market for hold baggage EDS compliant with EU/ECAC Standard 3 is at an incipient stage. The Parties' competitors estimate that about 80% of EEA airports are still to acquire EU/ECAC Standard 3 certified hold baggage EDS before 2020-2022.¹³¹
- (132) The Commission will therefore examine the effects of the Transaction based on the Parties' combined market share as established by the market reconstruction. The conclusion of the Commission's assessment would however not be materially different if the other calculation methodology were considered.

5.2.1.2. Closeness of competition

Smiths' views

- (133) Smiths submits that, in view of the high volatility of the Parties and their competitors' positions (both in terms of revenue and units tendered), shares are not able to convey an accurate indication of market strength or even likelihood to succeed in upcoming tenders. Smiths further submits that hold baggage EDS is a bidding market where customers exercise buyer power, with firms able to achieve significant sales in a short amount of time, even without a long history of supply of the same products (for example, Rapiscan achieved substantial sales in 2015 following the introduction of its product during the previous year).¹³²
- (134) In addition, Smiths submits that its hold baggage EDS (the so called XCT) is dissimilar to most other hold baggage EDS CT offerings, and [commercial performance] in the EEA. [...] the XCT has larger physical dimensions and

¹²⁸ See agreed minutes of the conference calls with a competitor of 15 and 20 September 2016: At worldwide level, "the companies active on hold baggage screening systems are: Morpho, Rapiscan, Smiths and L-3. On the hold baggage EDS CT segment, Morpho (with approx. 50% of the market) and L-3 are the dominant players"; See also agreed minutes of a conference call with a competitor of 27 September, paragraph 8: At worldwide level, "there are basically three significant players in the market for hold baggage EDS with roughly 1/3 of the market share each: Smiths Detection, Morpho Detection and L-3. The position of other players such as Rapiscan, Nuctech, or SureScan fluctuates on the market and may achieve 10% (...)."

¹²⁹ See agreed minutes of an interview with a competitor of 22 September 2016, paragraph 8: "EDS CT is a developing market for Nuctech (currently less than 2% of its turnover)."

¹³⁰ See agreed minutes of a conference call with a competitor of 17 October 2016, paragraph 6: "The company has also developed a product already sold in Europe: a medium speed EDS CT (scans 1 000 bags per hour), qualified in Europe through EU/ECAC Standards and which can compete for larger airports. It was sold in 2015 to the Manchester Group in the UK." and paragraph 9: "the company already participated in recent tenders such as for Aéroports de Paris or Brussels airport."

¹³¹ See agreed minutes of conference calls and an interview with three competitors of 15 and 20 September 2016, paragraph 11, of 22 September 2016, paragraph 15, and of 27 September 2016, paragraph 12.

¹³² Form CO, paragraph 337.

higher power requirements, [commercial information] the XCT's high level of detection and low false alarm rate.¹³³

- (135) Smiths also submits that the physical characteristics and performance of the Parties' hold baggage EDS are closer to other competitors' products than to each other's. According to Smiths, the Parties' EDS differ significantly in terms of footprint. Both of Morpho Detection's current hold baggage EDS are low speed machines and have a much lower bag throughput than Smiths' XCT.¹³⁴ Smiths' XCT would therefore be closer in these attributes to Rapiscan's RTT 110; L-3's MV3D; and Surescan's x1000, which also have high speeds and throughput,¹³⁵ while the hold baggage EDS of L-3, Reveal, and Nuctech are closer to the proposition offered by Morpho Detection's hold baggage EDS.¹³⁶
- (136) According to Smiths, there are three further manufacturers in addition to L-3 and Rapiscan, which already have EU/ECAC Standard 3 certification for their EDS CT: Surescan, Reveal and Nuctech. Smiths submits that there are therefore a significant number of credible competitors in the EEA offering hold baggage EDS CT and exerting a real competitive constraint on the Parties.¹³⁷
- (137) Smiths also submits that a bidding analysis shows that it is not the closest competitor to Morpho Detection. On the one hand, Smiths submits that the Parties did not bid against each other in [40-50]% of the EEA tenders for hold baggage EDS between 2013 and first half 2016.¹³⁸ On the other hand, while Smiths has mostly lost tenders against [competitor] ([50-60]% of tenders and [40-50]% of units tendered), the vast majority of the EEA tenders lost by Morpho Detection ([80-90]% of tenders and [80-90]% of units tendered) were lost to [competitors].¹³⁹
- (138) Finally, Smiths submits that the incremental cost of switching between manufacturers is small (with some cost for re-training staff) and does not play an important factor when replacing existing hold baggage EDS. There is accordingly minimal value in being the incumbent when an airport tenders for hold baggage EDS.¹⁴⁰

¹³³ Form CO, paragraphs 393 to 399.

¹³⁴ Morpho Detection's CTX 5800 advertises a belt speed of 0.14 m/s and a throughput of 400 bags per hour, and the CTX 9800 DSi a belt speed of 0.30 m/s and throughput of 1 080 bags per hour; while Smiths' XCT has a belt speed of 0.50 m/s and a throughput of 1 800 bags per hour. Form CO, paragraph 400.

¹³⁵ Rapiscan's RTT 110: belt speed – 0.50 m/s and throughput – 1 800 bags per hour; L-3's MV3D: belt speed – 0.50 m/s and throughput – 1 800 bags per hour; and Surescan's x1000: belt speed – 0.50 m/s; throughput – 1 915 bags per hour. Form CO, paragraph 401.

¹³⁶ L-3's eXaminer: belt speed – 0.34 m/s and throughput – up to 750 bags per hour; Reveal: belt speed – 0.28 m/s and throughput – 1 000 bags per hour; and Nuctech: belt speed – 0.30 m/s and throughput – 1 080 bags per hour. Form CO, paragraph 402.

¹³⁷ Form CO, paragraphs 338 to 339.

¹³⁸ Form CO, paragraph 403.

¹³⁹ Form CO, paragraphs 406 to 407.

¹⁴⁰ Form CO, paragraphs 383 to 385.

Commission's assessment

- (139) The Commission's market investigation confirms that airports largely organise competitive procedures for the acquisition of hold baggage EDS and that it constitutes a bidding market.¹⁴¹ Moreover, airports and central purchasing authorities responding to the market investigation indicate that the competition between hold baggage EDS suppliers takes place mostly on the basis of performance and price criteria.¹⁴²
- (140) With regard to closeness of competition, airports and central purchasing authorities responding to the market investigation rank L-3 as the main competitor of Smiths for the supply of hold baggage EDS compliant with EU/ECAC Standard 3, with Morpho Detection and Rapiscan being ranked second and third closest competitors ahead of other manufacturers.¹⁴³ Equally, they rank L-3 as the main competitor of Morpho Detection, with Smiths and Rapiscan being ranked second and third closest competitors ahead of other EDS manufacturers.¹⁴⁴ These results are in line with the different features (in terms of belt speed and throughput) of each of the Parties' product offering, which in turn are the most important criteria for airports when choosing their hold baggage EDS.
- (141) All these elements imply that the Parties do not compete closely for the provision of hold baggage EDS compliant with EU/ECAC Standard 3.

5.2.1.3. Barriers to entry/expansion

Smiths' views

- (142) Smiths submits that Rapiscan only introduced its hold baggage EDS in 2014 and was able to win a market share of [40-50]% in 2015. Smiths also argues that there are three further manufacturers in addition to L-3 and Rapiscan that already have EU/ECAC Standard 3 certification for their hold baggage EDS: Surescan (that received EU/ECAC Standard 3 certification in 2015), Reveal and Nuctech.¹⁴⁵
- (143) According to Smiths, even if hold baggage EDS require significant R&D investment, some customers, notably [customer], contribute to R&D expenditure, thereby reducing the need to finance such investment.
- (144) Smiths also submits that any manufacturer with a hold baggage EDS that has received EU/ECAC certification can take part in any tenders in the EEA and that any manufacturer can submit its hold baggage EDS to ECAC for testing, with no limit on the number of times that a device can be tested. As a result, a failure to gain certification does not rule out subsequent success in meeting the

¹⁴¹ Replies to Q1, question 2; and agreed minutes of the conference calls with competitors between 15 September and 17 October 2016.

¹⁴² The main criteria for airport operators to acquire hold baggage EDS is, in order of importance, (i) throughput/false alarm rate/size of the tunnel/performance, (ii) unit price, and (iii) price of maintenance, servicing and consumables. Replies to Q1, question 10.1.

¹⁴³ Replies to Q1, question 12.1.

¹⁴⁴ Replies to Q1, question 13.1.

¹⁴⁵ Form CO, paragraph 660.

requirements; indeed manufacturers are given guidance by ECAC as to the reason for failing to achieve certification.¹⁴⁶

- (145) With regard to intellectual property in relation to the relevant products, Smiths notes that new entrants are able to co-operate with partners to develop products without owning the intellectual property themselves.¹⁴⁷
- (146) Finally, Smiths submits that the Parties are not aware of any firm having exited the EDS CT market in the last five years.¹⁴⁸

The Commission's assessment

- (147) The Commission's market investigation yields ambiguous results.
- (148) The competitors responding to the market investigation submit that barriers to entry are high in the market for hold baggage EDS compliant with EU/ECAC Standard 3, mainly as regards the financial investment and time required to develop a product. A competitor estimates that "*it would be necessary to invest USD 35-40 million to become competitive*", and that "*having enough volume is also necessary to remain competitive*".¹⁴⁹
- (149) However, there are five competitors in addition to the Parties offering a hold baggage EDS compliant with EU/ECAC Standard 3 (L-3, Nuctech, Rapiscan, Revel and SureScan). In particular, as mentioned in Section 5.2.1.1, L-3 and Rapiscan together represent approximately half of the EDS sales in the EEA and exert significant competitive constraint on the Parties.
- (150) In that context, the majority of airports and central purchasing authorities responding to the market investigation indicates that they do not consider that the Transaction will have a negative impact on competition for the supply of hold baggage EDS.¹⁵⁰ Besides, the majority of airports or central purchasing authorities planning to purchase hold baggage EDS in the next three years expect that at least three suppliers will reply to their requests for proposal post-Transaction.¹⁵¹
- (151) One airport notes that "*already, there are manufactures that shares certain technology, to be able to supply the EDS market, without developing their own CT*".¹⁵²
- (152) Besides, while airports indicate that changing EDS suppliers can be difficult (in terms of time, service continuity and costs), they mostly refer to the infrastructure

¹⁴⁶ Form CO, paragraph 666.

¹⁴⁷ As a way of example of intellectual property co-operation, Smiths notes that it has entered into a cooperation agreement with Analogic to develop its EDS CT machine and has an agreement with [partner] to develop [technology]. Form CO, paragraph 669.

¹⁴⁸ Form CO, paragraph 671.

¹⁴⁹ See agreed minutes of the conference calls with two competitors on 15 and 20 September 2016, paragraph 21, and on 27 September 2016, paragraphs 21 and 22.

¹⁵⁰ Replies to Q1, question 22.

¹⁵¹ Replies to Q1, questions 9 and 9.1.

¹⁵² Reply by one airport to Q1, question 20.1.1.

works required to integrate new hold baggage EDS in their overall hold baggage systems.¹⁵³ As a matter of fact, being an incumbent supplier of threat detection equipment would not be among the most important criteria for being selected by an airport as its supplier for new hold baggage EDS.¹⁵⁴

5.2.1.4. Other issues

- (153) Finally, a majority of airports and central purchasing authorities believes that there will be sufficient competition for the supply of hold baggage EDS equipment in the EEA to prevent Smiths from raising prices after the Transaction,¹⁵⁵ and that the Transaction will have no impact or a positive overall impact on competition for the supply of hold baggage EDS.¹⁵⁶
- (154) In the same line, ECAC indicates that, although prices for hold baggage EDS are high, "*[t]he Transaction should not result in a price increase since [...] new competitors like Nuctech may impact the prices of EDS in the EU*".¹⁵⁷

5.2.1.5. Conclusion

- (155) In light of the above, and considering all evidence available to it, in particular the Parties' combined market shares, the number of remaining significant competitors, the bidding nature of the market, the fact that the Parties do not compete closely in the market, and the replies of the majority of airports and central purchasing authorities indicating that there will be sufficient competition to prevent Smiths from raising prices in the market post-Transaction, the Commission considers that the Transaction does not raise serious doubts as to its compatibility with the internal market with respect to the supply of hold baggage EDS compliant with EU/ECAC Standard 3 to the regulated sector in the EEA.

5.2.2. *Supply of ETD compliant with the EU/ECAC Standard to the regulated sector*

5.2.2.1. Overview of the market and market shares

- (156) Pre-Transaction, five manufacturers propose ETD compliant with the EU/ECAC Standard to the regulated sector: Morpho Detection, Smiths, Bruker, Implant Sciences and, since September 2016, Nuctech.
- (157) As regards sales of ETD compliant with the EU/ECAC Standard to the regulated sector in the EEA, the Parties' combined market share is relatively high in 2015, which is the year when the majority of purchases of the relevant product took

¹⁵³ Replies to Q1, question 14.1. In addition, with respect to the infrastructure works required to accommodate new hold baggage EDS, ACI Europe also notes that "*the installation of EDS Standard 3 machines for hold baggage screening is a major undertaking*" and that "*[t]he associated infrastructure and integration costs vary from 3-5 times of the cost of purchasing the equipment*". See response of ACI Europe on 6 October 2016 to the questions dated 19 September 2016, Section 1.iv.

¹⁵⁴ Replies to Q1, question 10.1.

¹⁵⁵ Replies to Q1, question 21.1.

¹⁵⁶ Replies to Q1, question 22.1.

¹⁵⁷ See agreed minutes of a conference call with ECAC on 19 September 2016, paragraph 23(a).

place¹⁵⁸ and which therefore serves as the reference year to assess the Parties' market position ([50-60]% in revenue in 2015 according to Smiths,¹⁵⁹ which is slightly above the results of the market reconstruction). The market shares would be similarly high on the basis of the number of units tendered ([50-60]% in 2015 according to Smiths,¹⁶⁰ which is comparable to the results of the market reconstruction).

- (158) The Parties' main competitors are Implant Sciences and Bruker, with respectively [30-40]% and [10-20]% market shares in revenue and respectively [30-40]% and [5-10]% in number of units tendered in 2015 in the EEA according to Smiths.¹⁶¹ The Commission's market reconstruction confirms that Implant Sciences and Bruker would be the Parties' main competitors, with market shares of a similar order of magnitude to the ones estimated by Smiths.
- (159) In light of the above, the Commission considers that the question of whether the effects of the Transaction on the market for the supply of ETD compliant with the EU/ECAC Standard to the regulated sector should be evaluated against the market shares estimated by Smiths or those resulting from the market reconstruction can be left open, since its assessment of the Transaction would be the same regardless of the source of the estimates, with the combined positions of the Parties being significant.

5.2.2.2. Closeness of competition

- (160) Smiths submits that the Parties compete with a broad range of well-resourced and successful competitors offering a broad range of ETD devices in the regulated air transport segment. In particular, Smiths indicates that ETD is homogenous and competition is driven by price. The performance standards and core characteristics of equipment would be nearly identical, while the key driver of competition in this sector would be the price of ETD equipment and consumables.¹⁶²
- (161) On average, respondents to the market investigation confirm however that technical performance criteria (e.g. throughput, false alarm rate, energy source, performance) would be at least as important as the unit price of equipment and the price of maintenance, servicing and consumables in the choice of ETD equipment compliant with the EU/ECAC Standard.¹⁶³
- (162) Besides, the Parties' internal documents indicate that both Smiths and Morpho Detection take into consideration in their monitoring practices and commercial strategies the conduct of other companies active in ETD markets, and in particular of the other Party to the Transaction.

¹⁵⁸ According to the Parties' estimates, the total market size of ETD compliant with the EU/ECAC Standard in the EEA substantially increased in 2015 compared to previous years 2014 (x17) and 2013 (x8). Form CO, Table 29.

¹⁵⁹ Form CO, Table 29.

¹⁶⁰ Form CO, Table 36.

¹⁶¹ Form CO, Tables 29 and 36.

¹⁶² Form CO, paragraph 458 and following.

¹⁶³ Replies to Q1, question 10.2.

- (163) As an example, in one presentation published in the third quarter 2015, consisting of a review of the detection market in 2014-2019, Morpho Detection notes that, for ETD for hold baggage, it competes "[competitors]", and for ETD to the EU/ECAC regulated air cargo customers, it competes "[competitors]".¹⁶⁴ In this presentation, Smiths is also the only other company listed as having a full offering in ETD ("Trace") alongside Morpho Detection, as can be seen in the figure below (in dark blue, "[strategy]").

"[Strategy]"

Source: Form CO, Annex 5(3), slide 29

- (164) In a strategy paper to its Board from January 2014, Smiths also mentions several competitors active in the wider detection market ([competitors]), but the only competitor mentioned for ETD is Morpho Detection, which Smiths considers as "[strategic assessment]".¹⁶⁵ In a review of competitor strategies dated July 2015, Smiths similarly mentions Morpho Detection as having "[strategic assessment]". Morpho Detection is the only company, among the competitors that Smiths lists for the overall detection market, for which Smiths mentions ETD markets.¹⁶⁶ Only at a latter part of the presentation, more focused on pure financial indicators rather than strategic and commercial benchmarks is [competitor] also mentioned among other competitors as a benchmark for evaluating Industry Revenue and Margin Trends "for ETD activities".¹⁶⁷

"[Competitors' strategies]"

Source: Form CO, Supporting Document 5.4(5), slide 9

- (165) In the assessment of the effects of the Transaction, the Commission considers that the fact that Smiths and Morpho Detection monitor each other's product developments and market shares as well as products and shares of the other competitors present on the ETD market, and use information regarding the product development and capacities of the other companies in their own strategic and commercial decision-making is particularly relevant because it shows which companies Smiths and Morpho Detection themselves see as important competitive constraints. Based on the internal documents provided by the Parties, it appears that besides the other Party to the Transaction, each of Smiths and Morpho Detection generally only view [competitor] as a strong competitive constraint in the market for the supply of ETD compliant with the EU/ECAC Standard to the regulated sector.¹⁶⁸ One of the reasons why [competitor] is not perceived as exerting a significant competitive pressure on the Parties may be linked to its positioning at the high-end of the market.¹⁶⁹

¹⁶⁴ Form CO, Annex 5(3).

¹⁶⁵ Form CO, Annex 5(1)(iv), page 13.

¹⁶⁶ Form CO, Supporting Document 5.4(5), slide 9.

¹⁶⁷ Form CO, Supporting Document 5.4(5), slide 27.

¹⁶⁸ See also Form CO, paragraph 502.

¹⁶⁹ See for example agreed minutes of the conference calls with two competitors of 05 October 2016, paragraph 12: "As for [competitor] (which is not on the TSA qualified product list), [...] believes that its Trace equipment is of good quality but priced high" and of 14 September 2016, paragraph 13: "The competitors with the most aggressive pricing policy were Implant Sciences and Morpho. Smiths followed."

- (166) Smiths also submits raw data and an analysis of recent ETD tenders and bilateral negotiations and sales. Smiths argues that those bidding data demonstrate the recent success of [competitor] and [competitor], in particular by showing that a significant proportion of Smiths' losses ([50-60]% of tenders and [70-80]% of units tendered) and Morpho Detection's losses ([30-40]% of tenders and [40-50]% of units tendered) were won by [competitor].¹⁷⁰
- (167) In this regard, the Commission notes that for ETD, the Parties have much less visibility of which competitor is successful, and there is a larger amount of cases where the competitors' identity is unknown,¹⁷¹ as compared to the EDS tenders. This also implies that it is more difficult to get reliable, systematic information from the trace bidding data on the comparison of to whom each of the Parties loses tenders with larger frequency.
- (168) Finally, in the Commission's market investigation, a majority of respondents indicate that Smiths and Morpho Detection are closest competitors for the supply of ETD compliant with the EU/ECAC Standard.¹⁷² The Commission therefore considers that Smiths and Morpho Detection are close and closest competitors on this market.
- (169) In light of the above, considering the EEA supply of ETD compliant with the EU/ECAC Standard to the regulated sector, the combined position of the Parties would be significant. Moreover, the Transaction would lead to the removal of the close competitive rivalry existing between Smiths and Morpho Detection, which has been an important source of competition on the market in recent years, including in the wave of procurement that occurred in 2015.

5.2.2.3. Barriers to entry/expansion

- (170) Smiths submits that the entry of new competitors for the supply of ETD is an important competitive feature. As demonstrated in particular by the recent expansion (new entry, in the case of EEA air transportation) and success of Implant Sciences and Bruker, providers of ETD would easily be able to enter and expand, providing dynamic competitive constraints on existing providers.¹⁷³ Smiths also mentions the recent validation by ECAC of Nuctech's ETD as compliant with the EU/ECAC Standard on 20 September 2016.¹⁷⁴
- (171) As regards barriers to entry/expansion, the Commission considers the following.
- (172) At the outset, the Commission notes that internal documents of the Parties themselves indicate that still in October 2014 they generally viewed the "[strategy]" (albeit not specifying that this applied to ETD only). The Commission recognises that since that date, a wave of procurement has occurred notably in EEA airports in 2015 and analyses the current market context in light of these recent market evolutions.

¹⁷⁰ Form CO, paragraph 516.

¹⁷¹ Form CO, paragraph 514.

¹⁷² Replies to Q1, questions 12.2 and 13.2.

¹⁷³ Form CO, paragraph 500.

¹⁷⁴ Form CO, paragraph 509.

- (173) On the one hand, in the Commission's market investigation, some market participants confirm that ETD prices have currently reached a low, under the joint effects of the commoditisation of equipment and the pressure exerted by Implant Sciences.¹⁷⁵
- (174) On the other hand, in the Commission's market investigation, entry in the ETD market is described as difficult. One competitor notes *"that there are high barriers to entry on the market for Trace products, linked to the time / investment needed to develop a product (approx. 4 years) and the time needed to obtain certification (approx. 1 year). Therefore about 5 years are needed for a new entrant."*¹⁷⁶ Another competitor also specifies that *"a supplier faces high barriers to entry in the Trace sector due to: (i) the experience needed in developing an analytical instrument at sufficiently low cost; and (ii) the demanding certification process. As a consequence of those high barriers to entry and of the scarcity of the demand over next years (and despite the demand increase in 2015), [this competitor] does not expect many new entrants."*¹⁷⁷
- (175) Besides, the competitive landscape may evolve considering that, on 10 October 2016, the Parties' main competitor Implant Sciences entered into Chapter 11 proceedings after entering into a deal to sell its assets to L-3. While L-3's acquisition of Implant Sciences has been approved by the Delaware Bankruptcy Court and was completed on 06 January 2017, it is still unclear whether L-3 would continue to compete as aggressively as Implant Sciences on the market for ETD supplied to aviation end-users. In particular, Smiths itself notes in an internal document dated July 2015 that Implant Sciences' operating and net profit margins are increasing but still negative,¹⁷⁸ which the Commission considers may be linked with Implant Sciences' subsequent filing for Chapter 11. While such negative margins may occur in capital-intensive industries which also rely on high subsequent service revenue streams, in general pursuing strategic and commercial decisions which would lead indeed to high competitive pressure but also to negative margins on the long run may not be sustainable.
- (176) As to the other new entrants mentioned by the Parties, the Commission notes that in the market investigation, airports and central purchasing authorities indicate that references and track record of the manufacturer such as experience in similar projects with airports of similar capacities, albeit less important than price or technical characteristics, would still be quite important criteria for selecting a supplier.¹⁷⁹ A competitor indeed indicates that *"most if not all future tenders in the EU ETD regulated market awarding authorities will continue to [...] request candidates, by way of an additional pre-qualification condition, to provide as a minimum two or three examples of successful installation and operation of ETD equipment with no radioactive source at airports in Europe."*¹⁸⁰ The Commission considers that in tenders for which such previous track records are important, the

¹⁷⁵ See agreed minutes of conference calls with competitors between 13 September and 29 November 2016.

¹⁷⁶ See agreed minutes of a conference call with a competitor of 14 September 2016, paragraph 19.

¹⁷⁷ See agreed minutes of a conference call with a competitor of 13 September 2016, paragraph 14.

¹⁷⁸ Form CO, Supporting Document 5.4(5), slide 27.

¹⁷⁹ Replies to Q1, question 10.2.

¹⁸⁰ See agreed minutes of an interview with a competitor of 22 September 2016, paragraph 12.

Parties are advantaged due to their historically high market shares and barriers to entry or expansion for competitors having been positively evaluated by ECAC after the wave of ETD procurement by airports in 2015, such as Nuctech, are still significant.

- (177) As regards Nuctech specifically, the Commission notes that its ETD offering currently consists exclusively of ETD based on a rad energy source.¹⁸¹ However, Smiths itself admits that nearly all new products brought to market are non-rad based.¹⁸² Furthermore, in the Commission's market investigation, airports and central purchasing authorities indeed confirm that technical criteria, including the energy source, constitute very important criteria for choosing a supplier, with some customers explicitly mentioning that radioactive-isotope free technology (i.e. having a non-rad product) is required.¹⁸³ The Commission therefore considers that companies offering only rad ETD would still face high barriers to entry, and therefore the competitive pressure they would exert on the Parties appears still very limited, if any, in the short and medium term.
- (178) Besides Implant Sciences, Bruker and Nuctech, the Commission has not identified any additional likely, timely and sufficient entry/expansion plans regarding the supply of ETD compliant with the EU/ECAC Standard that would be capable of adding sufficient competitive constraint on the Parties' operations in the regulated sector, especially given the foreseen scarcity of demand in the EEA market and the duration of the product development and certification process. Indeed, the deadline for the mandatory use of ETD in the screening process for passengers was set for 1 September 2015, resulting in about 80% of EEA airports renewing their equipment in 2015; and only minor additional sales are expected in the coming 3-5 years (for approximately EUR 10-15 million in total over that period).¹⁸⁴
- (179) Finally, by analogy with the supply of hold baggage EDS compliant with EU/ECAC Standard 3 to the regulated sector, the Commission notes that even if an ETD manufacturer obtains ECAC validation for one of its products as compliant with the EU/ECAC Standard, it does not necessarily mean that this manufacturer will indeed achieve sales to the regulated sector in the short or medium term. As an example, in the EDS market, Smiths itself mentions several competitors whose products have been validated by ECAC as EU/ECAC Standard 3 compliant, as far back as in 2010 or 2012 for some of them, but which have not made material sales of equipment in the EEA.¹⁸⁵ Based on its market reconstruction, the Commission considers that a similar situation might apply to the supply of ETD compliant with the EU/ECAC Standard to the regulated sector.

181 Form CO, Table 38.

182 Form CO, paragraph 483.

183 Replies to Q1, question 10.2. See also agreed minutes of a conference call with an airport of 23 September 2016, paragraph 7.

184 Except possibly if threats were to evolve rapidly, requiring development of new standards.

185 Form CO, paragraph 379.

5.2.2.4. Other issues

- (180) The opinion of respondents to the market investigation is ambiguous about the overall impact of the Transaction. While a majority of airports and central purchasing authorities consider that, overall, the Transaction will have a positive impact or no impact (in terms of price, quality and innovation) on the supply of ETD to the regulated sector, some underlined that Smiths and Morpho Detection are currently the market leaders and that the Transaction may drive prices up.¹⁸⁶ In addition, some competitors raise some concerns that the Parties' dominant position post-Transaction may result in price increase.¹⁸⁷ As an example, a distributor of ETD products manufactured by a competitor is "*concerned that providers of equipment would be far too concentrated; it considers fundamental that at least 2/3 ETD manufacturers remain independent and with the possibility to supply independent OEM.*"¹⁸⁸

5.2.2.5. Conclusion

- (181) In light of the above and of the other available evidence, and in view in particular of the Parties' high market shares and the fact that they are close/closest competitors, of the uncertainty about the degree of competitive pressure that Implant Sciences may exert in the medium term, in the absence of any additional likely, timely and sufficient entry/expansion plans regarding the supply of ETD compliant with the EU/ECAC Standard beyond the abovementioned competitors, the Commission considers that the Transaction would raise serious doubts as to its compatibility with the internal market with respect to the supply of ETD compliant with the EU/ECAC Standard to the regulated sector in the EEA.

5.2.3. Supply of ETD to the non-regulated sector

5.2.3.1. Overview of the market and market shares

- (182) The Parties both offer ETD to non-air transportation end-users. As regards worldwide sales of ETD to the non-regulated sector,¹⁸⁹ the Parties' shares in 2015 would be the following:
- a. Handheld ETD: market shares according to the market reconstruction are lower than the Parties' estimates ([40-50]% in revenue in 2015 according to Smiths);¹⁹⁰

¹⁸⁶ Replies to Q1, questions 21 and 22. For example: "*I think the problem could be for ETD because there are few suppliers*"; "*LIMITED SUPPLIES FOR ETD – POTENTIAL WORRY*"; "*ETD - Morpho and Smiths are the two market leaders supplying this type of equipment*".

¹⁸⁷ Replies to Q1, question 22.

¹⁸⁸ See agreed minutes of a conference call with a competitor of 4 October 2016, paragraph 22.

¹⁸⁹ At the time of notification, the Form CO did not consider the worldwide market for the supply of ETD to the non-regulated sector nor its distinction between desktop and handheld products. In particular, the Form CO indicated that the Parties' combined EEA shares of ETD sales in the non-regulated sector would be below 20% and that worldwide shares of all ETD would not be materially different. Smiths considered worldwide shares less useful for the analysis, as, in its opinion, it is difficult to separate regulated from non-regulated sales on a worldwide basis due to widely differing regulatory regimes in some parts of the world. Form CO, footnote 12 and paragraphs 92 and following.

- b. Desktop ETD: market shares are very high according to the market reconstruction, including as compared to the Parties' estimates ([50-60]% in revenue in 2015 according to Smiths).¹⁹¹

- (183) The results of the market reconstruction deviate significantly from Smiths' estimates, for both desktop ETD where the combined market share of the Parties reaches more than 75% in all past 3 years, and for handheld ETD where the combined market share of the Parties would conversely be below 45% in all past 3 years.
- (184) According to Smiths' estimates, the Parties' main competitors in handheld ETD are Nuctech and FLIR (with respectively [10-20]% and [5-10]% market shares in revenue in 2015)¹⁹² and in desktop ETD they would be Thermo Fisher and Nuctech (with respectively [10-20]% and [5-10]% market shares in revenue in 2015).¹⁹³ Implant Sciences is also mentioned by Smiths, with [5-10]% in handheld ETD and [0-5]% in desktop ETD revenue shares in 2015. The Commission's market reconstruction indicates however that the manufacturers identified by the Parties as their competitors actually achieved limited sales of desktop ETD in each of the past three years,¹⁹⁴ thus leading to the abovementioned discrepancy between the results of the market reconstruction and the Parties' estimates for this market.¹⁹⁵ In particular, Nuctech confirms that it sold no desktop ETD in the non-regulated sector in 2015,¹⁹⁶ and Thermo Fisher indicated that it achieved limited sales in 2015.¹⁹⁷

¹⁹⁰ Smiths' reply to RFI 2 of 29 November 2016, Table 2.

¹⁹¹ Smiths' reply to RFI 2 of 29 November 2016, Table 3.

¹⁹² Smiths' reply to RFI 2 of 29 November 2016, Table 2.

¹⁹³ Smiths' reply to RFI 2 of 29 November 2016, Table 3.

¹⁹⁴ See replies of competitors having submitted answers to the market reconstruction sent as a follow-up RFI 1. Furthermore, following significant market shares allocated to "others" (non-identified third parties) in Smiths' initial estimates of market shares for sales of ETD to the non-regulated sector, the Commission obtained additional contact details of several third party competitors (Smiths' reply to RFI 5 of 02 December 2016), which were contacted as part of a supplementary market reconstruction. This exercise has not yielded results that would alter the competitive assessment.

¹⁹⁵ Smiths states that some EEA airports would have purchased handheld Trace devices (that are not EU/ECAC certified), for screening undertaken over and above the minimum levels prescribed by regulation (Smiths' reply to RFI 2 of 29 November 2016, submission on "Non-regulated Trace sector"). However, according to Smiths itself, only around [10-20]% of the customers worldwide buy both handheld and desktop equipment, many of which are in the air sector (Smiths' reply to RFI 5 of 02 December 2016, paragraph 4.16 and Annex RFI 5 (3)). Besides, to account for any possible overstatement of the Parties' market shares in the non-regulated market that could have appeared in the market reconstruction, the Commission has undertaken a sensitivity analysis with conservative assumptions of re-allocation to the non-regulated sector of sales of non-regulated equipment to otherwise regulated customers. By applying the most conservative assumptions to sales estimates from the market reconstruction for 2015, the abovementioned market shares would still be reached by the Parties (more than 75% in desktop, less than 45% in handheld). The Commission concludes that although the market reconstruction exercise may to a small extent overstate the Parties' market share, this would only have a marginal impact.

¹⁹⁶ Nuctech's non-confidential reply to RFI 1 of 20 December 2016.

¹⁹⁷ Thermo Fisher's non-confidential reply to RFI 1 of 12 December 2016.

(185) The Commission therefore considers that the assumption of the Parties with regard to their limited position on the market for the supply of ETD to the non-regulated sector¹⁹⁸ cannot be confirmed, and quite to the contrary the Parties achieve significant market shares, in particular for the supply of desktop ETD.

5.2.3.2. Closeness of competition

(186) Regarding ETD sold to the non-regulated sector, some market participants indicate that the supply of ETD to the non-regulated sector is more fragmented and competitive than the regulated sector.¹⁹⁹ On the non-regulated sector, the Parties expect to be subject to the joint competition of manufacturers active on the regulated sector, which may sell the same ETD as those certified for the regulated sector, as well as manufacturers that do not have certified ETD and are thus only active in the non-regulated sector.

(187) However, in the Commission's market investigation, a majority of respondents indicate that Smiths and Morpho Detection are closest competitors for the supply of ETD to the non-regulated sector.²⁰⁰

(188) The Commission also considers that manufacturers which are considered by the Parties as close competitors manage to actually sell mostly handheld ETD. The Parties are the main suppliers of desktop ETD to the non-regulated sector, where they do not appear to be subject to the same competitive pressure from Implant Sciences as in the supply of ETD compliant with the EU/ECAC Standard to the regulated sector.

(189) The Commission therefore considers that Smiths and Morpho Detection are close and closest competitors in the non-regulated sector.

(190) Generally, the Transaction would lead to the removal of the close competitive rivalry existing between Smiths and Morpho Detection for the supply of desktop ETD.

5.2.3.3. Barriers to entry/expansion

(191) Smiths submits that the entry of new competitors for the supply of ETD to the non-regulated sector is an important competitive feature.²⁰¹ According to internal documents of the Parties, the threat of new entrants would be "[level]" for unregulated end uses.²⁰² To further explain this internal document, Smiths submits that by comparison, a regulatory requirement exists for the regulated sector which does not exist for the non-regulated sector. In particular, the Parties consider that "*strategy*". New entrants would be easily able to supply product to

¹⁹⁸ Smiths' reply to RFI 2 of 29 November 2016, paragraph 1.14.

¹⁹⁹ Internal documents of the Parties would also indicate that they share the view that the market is fragmented. As an example Morpho Detection qualifies the non-air applications market (although with a wider scope than ETD only) as a "*strategy*" (Form CO, Annex 5(1)(ii), slide 34) and Smiths similarly characterises "*strategy*" (also with a wider scope than ETD only) as follows: "*strategy*" (Form CO, Supporting Document 5.4(3), slide 21).

²⁰⁰ Replies to Q2, questions 12 and 13.

²⁰¹ Form CO, paragraph 509.

²⁰² Form CO, Annex 5.4(2), slide 7.

the non-regulated sector. They would thus establish credibility within the EEA by this means, which would then allow them critical mass to merit the investment in obtaining EU/ECAC certification.²⁰³

- (192) This view of the competitive dynamics at play in the supply of ETD to the non-regulated sector is however not confirmed by the Commission's market investigation. Contrary to Smiths' assessment, customers in the non-regulated sector indicate that ETD certification for use in the aviation sector is a relatively important criterion in their choice of ETD suppliers.²⁰⁴ References and track record of the manufacturer are also indicated as a moderately important criterion in this choice,²⁰⁵ thus favouring competitors which may already have a significant ETD installed base such as the Parties. Therefore, the Commission considers that entry or expansion into the non-regulated sector may equally be challenging for new competitors, insofar as previous certification for the regulated sector or references may be required by non-regulated customers.
- (193) Furthermore, as previously mentioned, Smiths also submits raw data and an analysis of recent ETD tenders and bilateral negotiations and sales. As regards the non-regulated market, Smiths argues that, while the bidding data are not an exhaustive, or even near complete, picture of third party sales of ETD, they still provide some examples of third party competitors winning sales of ETD to non-regulated customers on a worldwide basis.²⁰⁶
- (194) While the Commission agrees that ETD bidding data submitted by Smiths may not be the most reliable data source for participation analysis, let alone for market share calculations, as a significant proportion of sales is achieved through bilateral contacts, the Commission notes that in the Parties' own bidding data, the Parties mention other competitors only in a limited number of cases. In Smiths' bidding data, the Parties won [80-90]% of the bid units of worldwide, non-regulated, desktop ETD, while in Morpho Detection's bidding data the figure is [70-80]%. Most of the limited number of remaining wins are by [competitor] ([0-5]% and [10-20]% of the bid units respectively in Smiths and Morpho Detection's data).
- (195) The Commission therefore considers that the Transaction will give the Parties a strong position in the supply of desktop ETD to the non-regulated sector and may discourage entry or expansion of competitors in that market.
- (196) Finally, besides the few abovementioned competitors which actually achieved limited sales in desktop ETD in recent years, the Commission has not identified any likely, timely and sufficient entry/expansion plans by competitor(s) regarding the supply of ETD to the non-regulated sector that would be capable of adding sufficient competitive constraint on the Parties' operations in this market.

203 Parties' reply to QP3, paragraph 4.1.

204 Reply to Q2, question 9.

205 Reply to Q2, question 9.

206 Smiths' reply to RFI 2 of 29 November 2016, submission on "Non-regulated Trace Sector", paragraphs 36 and following.

5.2.3.4. Other issues

- (197) Overall, customers responding to the market investigation express mixed views as to the questions whether the Transaction will have a significant overall impact on competition,²⁰⁷ and whether there will be sufficient competition to prevent the Smiths from raising prices after the Transaction.²⁰⁸ While some customers consider that the Transaction may have a neutral or positive impact in terms of price, quality of service and innovation, others raise concerns of risk of price increase due to the loss of competition between the Parties.²⁰⁹ One customer indicates that the Transaction would impact the current situation where "*Smiths Detection and Morpho Detection have both consistent market share with long experience and consolidated presence and solid reputation. They are now direct competitors.*"²¹⁰

5.2.3.5. Conclusion

- (198) In light of the above and of the other available evidence, and in view in particular of the Parties' high market shares and the fact that they are close competitors, in the absence of any additional likely, timely and sufficient entry/expansion plans beyond the limited sales of the abovementioned competitors, the Commission considers that the Transaction would raise serious doubts as to its compatibility with the internal market with respect to the supply of desktop ETD to the non-regulated sector worldwide.

5.2.4. Cabin baggage EDS

5.2.4.1. Overview of the Parties' activities and competitive landscape

- (199) Smiths is currently exploring whether certain of its existing CXS for cabin baggage [strategy]. The indication that Smiths received from ECAC that currently only one CXS has been approved as meeting EU/ECAC Standard C1²¹¹ was confirmed on 19 December 2016.²¹² Smiths is also developing a cabin baggage EDS [technology] with the aim of achieving EU/ECAC Standard C3 in [date].²¹³
- (200) Morpho Detection is also developing two cabin baggage EDS, one based on XRD and the other based on [technology], intended to satisfy the operational requirements of EU/ECAC Standard C3. It expects the XRD-based product to be

207 Replies to Q2, question 15.

208 Replies to Q2, question 14.

209 Replies to Q2, question 15.

210 Reply of a customer to Q2, question 15.

211 Form CO, paragraph 568.

212 Only Smiths' HI-SCAN 6040aTiX has been positively evaluated by ECAC under the CEP as a cabin baggage EDS compliant with EU/ECAC Standard C1. That device has also been positively tested as a Liquid Explosive Detection System (LEDS) compliant with EU/ECAC Standards 2 and 3 for LEDS.

213 Form CO, paragraph 569.

tested for compliance with EU/ECAC Standard C3 in [date]. The [technology]-based product is [strategy].²¹⁴

- (201) Ten different manufacturers have asked for testing.²¹⁵ Some of them focus on the most advanced checkpoints in order to comply with EU/ECAC Standard C3, including IDSS,²¹⁶ L-3,²¹⁷ Analogic,²¹⁸ or Nuctech.²¹⁹ There are currently no cabin baggage EDS CT deployed at EEA airports, except for three units on trial at Amsterdam Schiphol and Lyon airports.²²⁰

5.2.4.2. Comparative levels of development and marketability

- (202) If the supply of cabin baggage EDS compliant with EU/ECAC Standards C to the regulated sector is defined as one overall market, the market investigation confirms that Smiths would be able to bring a compliant product to the market immediately after positive testing by ECAC, since its current cabin baggage EDS complies with Standard C1.²²¹
- (203) Considering that Morpho Detection would not enter the market before [date] and that other manufacturers are expected to be positively tested by ECAC for compliance with one of the EU/ECAC Standards C during 2017, the Commission considers that Morpho Detection would, absent the Transaction, have entered the market for the supply of cabin baggage EDS compliant with EU/ECAC Standards C later than a number of competitors, including Smiths. In addition, as the price of its cabin baggage EDS would significantly exceed the price of cabin baggage EDS marketed as compliant with EU/ECAC Standards C1-C2 (including Smiths' cabin baggage EDS),²²² the Commission considers that, on the cabin baggage EDS compliant with EU/ECAC Standards C, Morpho Detection would not have exerted a significant competitive pressure on Smiths absent the Transaction.
- (204) If the supply of cabin baggage EDS compliant with EU/ECAC Standard C3 to the regulated sector were defined as a separate market, both Morpho Detection and Smiths would enter the market before [date], Morpho Detection on the basis of XRD and [technology], Smiths on the basis of [technology]. The Transaction may result in either Smiths or Morpho Detection putting an end to the development of

²¹⁴ Form CO, paragraphs 570-572 and 576.

²¹⁵ See agreed minutes of a conference call with ECAC of 19 September 2016, paragraph 21.

²¹⁶ See <http://www.icao.int/Meetings/SIAS/Documents/New%20Presentations/To%20add%20new/03.Joseph%20Parisi.IDSS.pdf>.

²¹⁷ See <http://www.passengerterminaltoday.com/viewnews.php?NewsID=70375>.

²¹⁸ See <http://www.analogic.com/node/2197>. Analogic had entered into a cooperation agreement with Smiths to develop Smiths' hold baggage EDS CT (Form CO, paragraph 669).

²¹⁹ See <http://www.passengerterminaltoday.com/viewnews.php?NewsID=78330>.

²²⁰ See response of ACI Europe of 06 October 2016 to the questions dated 19 September 2016, section 1.v.

²²¹ See agreed minutes of a conference call with a central purchasing authority of 04 November 2016: "[...] considers that Smiths aTix screening devices for cabin baggage, [...], are able to comply with EU/ECAC Standard C1, subject to a software upgrade and to the outcome of ongoing ECAC CEP testing of EDS CB." ECAC notified Smiths on 19 December 2016 that its HI-SCAN 6040aTiX complies with EU/ECAC Standard C1.

²²² Form CO, paragraph 573.

its cabin baggage EDS [technology]; in any case, it will reduce the number of providers of cabin baggage EDS compliant with EU/ECAC Standard C3 that would have been active absent the Transaction in 2018.²²³

- (205) Nevertheless, most of the respondents to the market investigation indicate that, in their view, there will be sufficient competition for the supply of cabin baggage EDS in the EEA to prevent Smiths from raising prices after the Transaction. The Commission also notes that there will remain at least four manufacturers claiming to be able to fulfil EU/ECAC Standard C3. Among those competitors is L-3, which has a proven track-record in hold baggage EDS CT (see Section 5.2.1).²²⁴

5.2.4.3. Conclusion

- (206) In light of the above, and considering all evidence available to it, the Commission considers that the Transaction does not raise serious doubts as to its compatibility with the internal market with respect to the supply of cabin baggage EDS compliant with EU/ECAC Standards C to the regulated sector in the EEA, under any plausible segmentation.

5.3. Conglomerate effects

5.3.1. Introduction

- (207) The Commission has assessed whether the proposed Transaction, which reinforces Smiths' portfolio of threat detection equipment by adding Morpho Detection's activities in the supply of hold baggage EDS and ETD could lead to conglomerate or similar effects. In particular, the Commission has examined whether any of the four following possible scenarios, which gave rise to concerns by competitors during the market investigation, are likely to occur, either individually or in combination.
- (208) First, through the Transaction, Smiths would achieve efficiency gains, notably by allocating its fixed costs for after-sales services to a broader installed base. It would take advantage of those gains to cross-subsidise product lines or after-sales services and under-price competitors, eventually forcing them out of the market.
- (209) Second, Smiths would be best placed post-Transaction to bundle different types of security screening equipment or win bundled tenders, depriving specialised manufacturers of access to the market.
- (210) Third, Smiths would post-Transaction exploit the growing demand for networked security systems²²⁵ and its expanded installed base to sell additional types of equipment and/or software.

²²³ See response of ACI Europe of 06 October 2016 to the questions dated 19 September 2016, section 5.i: *"The takeover will reduce the amount of competition in EDS and EDSCB in terms of CT units to choose from and cost options."*

²²⁴ <http://www.passengerterminaltoday.com/viewnews.php?NewsID=70375>.

²²⁵ Networking refers to creating an infrastructure which will enable screening devices to collect and exchange data in order to improve efficiency, accuracy and reduce costs. Manufacturers only network the different types of equipment they supply; inter-vendor networking or interoperability of software supplied by different manufacturers does not exist.

(211) Fourth, Smiths would be so strong post-Transaction that it would have the ability to influence regulators to its advantage when issuing standards and specifications.

5.3.2. *Smiths' views*

(212) Smiths submits that, while the Transaction will broaden Smiths' offering in both hold baggage EDS and ETD,²²⁶ it does not give rise to any concerns due to portfolio effects.²²⁷

(213) In particular, Smiths notes that (i) Smiths already sells pre-Transaction the same types of products as those marketed by Morpho Detection;²²⁸ (ii) customers typically source products from competing manufacturers;²²⁹ (iii) customers sometimes use system integrators to coordinate between equipment provided by different manufacturers or appoint one manufacturer to a project and require them to subcontract for products they do not produce themselves; therefore, having a range of products does not confer a competitive advantage;²³⁰ and (iv) other manufacturers (e.g. L-3, Rapiscan and Nuctech) have a similarly wide range of equipment.²³¹

5.3.3. *The Commission's assessment*

5.3.3.1. Legal framework

(214) According to the Non-Horizontal Merger Guidelines, the main concern in the context of conglomerate mergers is that of foreclosure. The combination of products in related markets may confer on the merged entity the ability and incentive to leverage a strong market position from one market to another by means of tying or bundling or other exclusionary practices. Tying and bundling as such are common practices that often have no anticompetitive consequences. Companies engage in tying and bundling in order to provide their customers with better products or offerings in cost-effective ways. Nevertheless, in certain circumstances, these practices may lead to a reduction in actual or potential rivals' ability or incentive to compete. This may reduce the competitive pressure on the merged entity allowing it to increase prices.²³²

(215) In assessing the likelihood of such a scenario, the Commission examines, first, whether the merged entity would have the ability to foreclose its rivals, second, whether it would have the economic incentive to do so and, third, whether a foreclosure strategy would have a significant detrimental effect on competition,

²²⁶ The assessment carried out in this section is based on the Transaction as initially notified. The Commission notes that the Transaction as modified by the Final Commitments (see Section 6) leaves Smiths' offering in ETD unchanged. Therefore, the Final Commitments would remove doubts, if there were any, as to the compatibility of the Transaction with the internal market based on conglomerate effects triggered by the reinforcement of Smiths' position in the ETD markets.

²²⁷ Form CO, paragraph 594.

²²⁸ Form CO, paragraphs 595-597.

²²⁹ Form CO, paragraph 598.

²³⁰ Form CO, paragraphs 599-600.

²³¹ Form CO, paragraph 602.

²³² Non-Horizontal Merger Guidelines, paragraph 93.

thus causing harm to consumers. In practice, these factors are often examined together as they are closely intertwined.²³³

5.3.3.2. General elements for the assessment

- (216) In addressing the risk of anti-competitive conglomerate effects, the Commission must only take account of the changes brought about by the Transaction. In this respect, the Commission notes that the Transaction involves two manufacturers that already have a diversified portfolio of products. Therefore, any of the Parties, and in particular Smiths which has a broad range of products and enjoys a strong position in X-ray equipment supplied to the regulated sector,²³⁴ would already have the possibility to enter in a strategy of cross-subsidisation, bundling or networking pre-Transaction. There is no evidence available to the Commission that any of the Parties did enter or planned to enter in such a strategy.
- (217) Furthermore, the Commission notes that the Parties' main competitors (L-3,²³⁵ Rapiscan, Nuctech) are active on several threat detection markets. Those companies are therefore likely to effectively try to defeat any strategy that Smiths' may engage in on the basis of its reinforced portfolio of products post-Transaction.
- (218) Finally, the market investigation has shown that most purchasers of EDS in the regulated sector apply dual or multiple sourcing strategies and that this pattern is not expected to change in the coming three to four years.²³⁶ A foreclosure strategy is therefore likely to be unsuccessful in the markets for EDS or complementary products.
- (219) In addition to those general elements, the Commission considers that there are specific grounds for considering that the four possible scenarios referred to in Section 5.3.1 are not likely to cause harm to the consumers.

5.3.3.3. Foreclosure of competitors based on efficiency gains on after-sales services

- (220) The Commission preliminarily notes that the efficiencies that may be brought forward by the Transaction are not a sufficient argument to demonstrate Smiths' ability to under-price its competitors and, consequently, to force them out of the market or weaken their constraint.
- (221) In particular, the Commission considers that Smiths' competitors post-Transaction are able to engage in effective and timely counter-strategies.

²³³ Non-Horizontal Merger Guidelines, paragraph 94.

²³⁴ See response of ACI Europe of 06 October 2016 to the questions dated 19 September 2016, section 1.v: "*Smiths have a significant lead in the market for single and dual/multiview x-ray equipment.*" See also Form CO, Annex 6(10) - XCT (September 2015): "*[Strategy].*"

²³⁵ The acquisition of Implant Sciences' ETD business by L-3 completed on 6 January 2017 enables the latter to fill the gap in its product portfolio and cover a range comparable to that of Smiths.

²³⁶ See response of ACI Europe of 06 October 2016 to the questions dated 19 September 2016, section 1.vi.

- (222) First, a number of suppliers of hold baggage EDS to the regulated sector are also active in other markets and could also use the [level] profit margins generated in after-sales services²³⁷ to cross-subsidise their other products or price them more aggressively. In particular, L-3, which has taken over Implant Sciences' ETD business, thus complementing its product portfolio, could replicate Smiths' strategy post-Transaction.
- (223) Second, single-product suppliers and new entrants like Implant Sciences have demonstrated their ability to constrain the Parties in the regulated sector, although, thanks to their large and diversified installed base already pre-Transaction, Smiths and Morpho Detection were likely to have a more cost-efficient model for the provision of after-sales services.
- (224) In addition, it is uncertain whether Smiths would have the incentive to engage in a foreclosure strategy, because it is unlikely that an aggressive pricing policy would lead to the exit of rivals or weaken their competitive constraints.
- (225) Price is a key criterion for the choice of a supplier of threat detection equipment. However, the technical and operational performance is of equal, if not higher importance.²³⁸ Therefore, post-Transaction, Smiths would have to price equipment at a sufficiently low level so as to overcome any technical or operational disadvantage. The discount to be granted to prospective customers compared to other bidders is likely to exceed the efficiency gains brought forward by the Transaction.
- (226) Furthermore, most end-users of threat detection equipment choose equipment on the basis of the total cost of ownership (see Section 4.2.2). Therefore, in general, Smiths could not recoup, post-Transaction, the discounts that it would consent to in order to gain a price advantage over its competitors by over-pricing after-sales servicing.

5.3.3.4. Foreclosure of competitors based on a bundling strategy

- (227) The Transaction does not add a type of equipment to Smiths' portfolio. Nevertheless, it has an impact on Smiths' position mainly in the markets for the (i) supply of hold baggage EDS to the regulated sector; (ii) supply of ETD to the regulated sector; and (iii) supply of desktop ETD to the non-regulated sector.

Smiths' ability to leverage its position on the supply of hold baggage EDS post-Transaction

- (228) For the reasons discussed in Section 5.2.1, Smiths will not have post-Transaction a significant degree of market power for the supply of hold baggage EDS to the regulated sector that would enable it to successfully engage in a bundling or tying strategy.²³⁹

²³⁷ [Cost information] (Form CO, paragraphs 622 and 631).

²³⁸ Replies to Q1, questions 5.1, 5.2, 10.1, 10.2 and 10.3; and replies to Q2, question 9.

²³⁹ Non-Horizontal Merger Guidelines, paragraph 99. This is also valid for cabin baggage EDS (see Section 5.2.4).

Smiths' ability to leverage its position on the supply of ETD to the regulated sector post-Transaction

- (229) With regard to the supply of ETD to the regulated sector, it is not necessary to conclude on Smiths' degree of market power post-Transaction, as other factors limit the Smiths' ability to leverage its position on the ETD market post-Transaction.
- (230) As indicated in Section 4.2.1.3, the purchase of threat detection equipment in the regulated sector is essentially carried out by means of calls for tender or bids which, as confirmed by most respondents to the market investigation having purchased equipment in the last two years, are generally specific to one type of threat detection equipment.²⁴⁰ In addition, the different types of threat detection equipment that EEA airports must procure have different lifetimes and are subject to different regulatory deadlines, thus reducing the probability of bundled purchases.
- (231) Respondents to the market investigation that plan to purchase threat detection equipment in the coming three years express more nuanced views as to whether they plan to purchase several types of threat detection equipment together.²⁴¹ Nevertheless, most of them confirm that the Transaction would not change their plans to purchase or to not purchase several types of threat detection equipment together.²⁴²

Smiths' ability to leverage its position on the supply of desktop ETD to the non-regulated sector post-Transaction

- (232) Likewise, with regard to the supply of ETD to the non-regulated sector, it is not necessary to conclude on Smiths' degree of market power post-Transaction, considering the following elements.
- (233) Most respondents to the market investigation indicated that, in the non-regulated sector as well, ETD is generally purchased alone.²⁴³ Nevertheless, if ETD is to be used at checkpoints, it seems more common in the non-regulated sector (although still accounting for the minority of ETD purchases) than in the regulated sector to purchase ETD with other types of threat detection equipment (e.g. walk through metal detectors, handheld metal detectors, X-ray scanners). Smiths already offers pre-transaction all of those checkpoint products, while Morpho Detection offers none. In addition, the average value of X-ray scanners significantly exceeds the average value of ETD. Therefore, the impact of the Transaction on Smiths' ability and incentive to leverage its stronger position in the desktop ETD market to sell a package of equipment including X-ray scanners seems limited and, in any case, insufficient to force manufacturers of X-ray scanners out of the market.

²⁴⁰ Replies to Q1, question 15.

²⁴¹ Replies to Q1, question 15.

²⁴² Replies to Q1, question 16.2.

²⁴³ Replies to Q2, question 8.

5.3.3.5. Foreclosure of competitors based on networking

- (234) According to the market investigation, the capability to network EDS or ETD with other security systems does not rank among the most important criteria for the choice of a supplier. In both the regulated and non-regulated sectors, the networking capability is notably considered as less important than the performance (throughput, false alarm rate, size of the tunnel for EDS and energy source for ETD), the price of equipment and of after-sales services, the format and the certification for the ETD supplied to the non-regulated sector,²⁴⁴ and the costs of adapting infrastructure for hold baggage EDS.
- (235) In addition, the market investigation has shown that end-users may resort to system integrators that are not the original equipment manufacturers to network several types of threat detection equipment, even though solutions directly provided by manufacturers may be preferred.²⁴⁵

5.3.3.6. Foreclosure of competitors based on standard setting

- (236) Despite Smiths' strong position in certain regulated markets (e.g. X-ray equipment used by airports), there is no material evidence available to the Commission that Smiths has had the ability or incentive to influence the definition of standards or specifications by the EU regulator.
- (237) In addition, post-Transaction, Smiths' position on the regulated sector would be stronger in the market for ETD, which has been recently subject to new regulatory requirements and which would essentially evolve in the coming three to five years as a response to emerging threats.

5.3.4. Conclusion

- (238) In view of the above, and considering all evidence available to it, the Commission considers that the Transaction does not raise serious doubts as to its compatibility with the internal market with respect to conglomerate effects.

6. COMMITMENTS

6.1. Analytical framework

- (239) Where the Commission considers that a concentration will raise competition concerns the parties may seek to modify the concentration in order to resolve such competition concerns and thereby gain clearance of their merger.²⁴⁶
- (240) In Phase I, commitments offered by the parties can only be accepted where the competition problem is readily identifiable and can easily be remedied. The competition problem therefore needs to be so straightforward and the remedies so

²⁴⁴ Replies to Q1, questions 5.1, 5.2, 10.1, 10.2 and 10.3; and replies to Q2, question 9.

²⁴⁵ See agreed minutes of two conference calls with a competitor of 15 and 20 September 2016, paragraph 20.

²⁴⁶ Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004 (the "Remedies Notice"), OJ 2008/C 267/01, Paragraph 5.

clear-cut that it is not necessary to enter into an in-depth investigation and that the commitments are sufficient to clearly rule out serious doubts within the meaning of Article 6(1)(c) of the Merger Regulation. Where the assessment confirms that the proposed commitments remove the grounds for serious doubts on this basis, the Commission clears the merger in Phase I.²⁴⁷

- (241) In assessing whether the proposed commitments will likely eliminate the competition concerns identified, the Commission considers all relevant factors including inter alia the type, scale and scope of the proposed commitments, judged by reference to the structure and particular characteristics of the market in which the competition concerns arise, including the position of the parties and other participants on the market.²⁴⁸
- (242) As concerns the form of acceptable commitments, the Merger Regulation leaves discretion to the Commission as long as the commitments meet the requisite standard.²⁴⁹ Structural commitments will meet the conditions set out above only in so far as the Commission is able to conclude with the requisite degree of certainty that it will be possible to implement them and that it will be likely that the new commercial structures resulting from them will be sufficiently workable and lasting to ensure that the significant impediment to effective competition will not materialise.²⁵⁰ Divestiture commitments are generally the best way to eliminate competition concerns resulting from horizontal overlaps.²⁵¹

6.2. Procedure

- (243) In order to address the serious doubts raised by the Transaction regarding the supply of (i) ETD to the regulated sector in the EEA, and (ii) desktop ETD to the non-regulated sector worldwide, Smiths has modified the Transaction by entering into commitments, which are annexed to this Decision and form an integral part thereof.
- (244) Smiths provided a first set of commitments, accompanied by a Form RM, on 21 December 2016 (the "Commitments of 21 December 2016") pursuant to Article 6(2) of the Merger Regulation.²⁵²
- (245) The Commission launched on 22 December 2016 a market test of the Commitments of 21 December 2016 (the "market test"). Questionnaires were sent to current and potential future providers of ETD, to regulators, to distributors of the Parties' ETD, and to end-users in the regulated and non-regulated sectors.

²⁴⁷ Remedies Notice, paragraph 81.

²⁴⁸ Remedies Notice, paragraph 12.

²⁴⁹ Case T-177/04 *easyJet v Commission* [2006] ECR II-1913, Paragraph 197.

²⁵⁰ Remedies Notice, paragraph 10.

²⁵¹ Remedies Notice, paragraph 17.

²⁵² The Commitments of 21 December 2016 were slightly modified compared to the draft version submitted by Smiths on the same day, notably to provide for the carving-out of the business to be divested by way of a pre-closing reorganisation, to add a purchaser criterion related to its industrial background and to clarify that the previous generation of desktop ETD product is included in the scope of the business to be divested.

- (246) As further described in Section 6.3, based on the results of the market test, the Commission considered that the Commitments of 21 December 2016 did not address in full and in a clear-cut fashion the serious doubts identified by the Commission during the market investigation and therefore did not meet the standard for an acceptable remedy in Phase I.
- (247) Smiths submitted modified commitments, accompanied by an updated Form RM, on 16 January 2016 (the "Final Commitments").

6.3. The Commitments of 21 December 2016

6.3.1. Description

- (248) The Commitments of 21 December 2016 consist essentially of the divestment of Morpho Detection's global desktop ETD business based on IMS technology (the "Divestment Business of 21 December 2016"). According to Smiths, the forecast sales for the Divestment Business of 21 December 2016 are in the range of EUR [turnover] million to EUR [turnover] million for 2016. In addition, sales of desktop ETD represent approximately [80-90]% of Morpho Detection's total ETD sales (in number of units) in 2013 to 2015.
- (249) The Divestment Business of 21 December 2016 comprises notably the following elements linked to the development, manufacture, sale and provision of after-sales services by Morpho Detection of its ETD desktop products (Itemiser DX, Itemiser 4DX and Itemiser 3 Enhanced and Itemiser 3):
- (a) Infrastructure, equipment and supply:
 - i. the assignment of the lease (or, alternatively, the sublease) of a manufacturing plant in the USA and of a sales/service depot in the UK;
 - ii. production, quality, and manufacturing, engineering and R&D equipment used to develop, produce or support production of ETD desktop products;
 - iii. the transfer of all agreements with Morpho Detection's current suppliers relating to the ETD desktop products (if possible);
 - (b) Intellectual property rights:
 - i. the transfer of the intellectual property rights commercialised exclusively for the ETD desktop products;
 - ii. non-exclusive, irrevocable, worldwide, royalty-free licences of the intellectual property rights commercialised in relation to (i) both the ETD desktop products and any products retained by Morpho Detection, and (ii) consumables and shared parts for the ETD desktop products;
 - (c) Research and development:
 - i. assets used to customise and develop new algorithms on the ETD desktop products;
 - ii. the rights to Morpho Detection's product pipeline relating wholly or primarily to ETD desktop products based on IMS technology;

- (d) Distribution and servicing:
 - i. the transfer of all agreements with Morpho Detection's current distributors relating to the sale and servicing of the ETD desktop products (if possible);
 - ii. the assignment of servicing contracts relating to the ETD desktop products;
 - iii. the transfer of all agreements with Morpho Detection's current customers relating to the sale and servicing of the ETD desktop products (if possible);

(e) Personnel allocated to the ETD desktop products.

(250) The Commitments of 21 December 2016 also contain undertakings related to the Divestment Business of 21 December 2016, notably in terms of preservation of its viability and appointment of a Monitoring Trustee. In addition, the Commitments of 21 December 2016 set out the criteria to be fulfilled by the purchaser of the Divestment Business of 21 December 2016, which will be required to enter into transitional support arrangements with Smiths and/or Morpho Detection to ensure the operation of the non-desktop ETD business retained by Morpho Detection until it has been migrated to Smiths and/or Morpho Detection.

6.3.2. Assessment

6.3.2.1. Smiths' views

(251) Smiths considers that the Commitments of 21 December 2016 will remove any serious doubts brought about by the Transaction.

6.3.2.2. Commission's assessment

Viability and competitiveness of the Divestment Business of 21 December 2016

(252) The majority of end-users responding to the market test considers that the Commitments of 21 December 2016 will be sufficient to remedy in a clear-cut manner the competition issues raised by the Transaction.²⁵³

(253) Competitors and distributors however expressed mixed views on the matter.²⁵⁴ In particular, those market participants that do not consider the Commitments of 21 December 2016 as sufficient point out to the inadequate scope of the Divestment Business of 21 December 2016, as it excludes (i) handheld ETD, and (ii) other technologies than the one currently used in Morpho Detection's ETD (IMS).²⁵⁵

²⁵³ Replies to T2 – Distributors and end-users, question 5.1 for the supply of ETD to the regulated sector in the EEA and question 5.2 for the supply of ETD to the non-regulated sector worldwide.

²⁵⁴ Replies to T1 – Competitors and regulators, question 12.1 for the supply of ETD to the regulated sector in the EEA and question 12.2 for the supply of ETD to the non-regulated sector worldwide; and replies to T2 – Distributors and end-users, question 5.1 for the supply of ETD to the regulated sector in the EEA and question 5.2 for the supply of ETD to the non-regulated sector worldwide.

²⁵⁵ See for example reply of a competitor to T1 – Competitors and regulators, question 1: "(...) the Commitments raise a number of concerns about implementation that negatively impact their viability and competitiveness post-transaction. (...) The proposed Commitments are neither effective nor practicable. / The Commitments propose the divestiture of only the Morpho desktop

(i) The scope of the Divestment Business of 21 December 2016 excludes handheld ETD

- (254) A number of market participants indicate that the split between the Divestment Business of 21 December 2016 and the handheld ETD business retained by the merged entity would be detrimental to the viability and competitiveness of the Divestment Business of 21 December 2016. They submit that the two ETD format devices share many commonalities in terms of development (same patented technologies, intellectual property rights and R&D personnel), production (same components, manufacturing equipment and know-how), distribution (same sales personnel and distribution contracts) and aftermarket (same training, maintenance procedures and consumables).²⁵⁶
- (255) Smiths confirms that assets and rights relating to Morpho Detection's desktop ETD are also likely to relate to handheld ETD. The implementation of the Commitments of 21 December 2016 would therefore imply the partition of those assets and rights and, to the extent necessary, their duplication for the continuity of the business retained by Smiths post-Transaction.²⁵⁷
- (256) More specifically, for equipment, inventory as well as consumables, components and spare parts common to desktop and handheld ETD, Smiths proposes to determine the proportion of assets to be transferred as part of the Divestment Business of 21 December 2016 on the basis of three alternative methods.²⁵⁸
- (257) For personnel, Smiths submits that the personnel included in the Divestment Business of 21 December 2016 are sufficient to ensure its continuing viability and competitiveness. However, it does not specify whether retained personnel work in part on desktop ETD. In addition, Smiths notes that, for corporate functions such as business development, customer and field support as well as sales, personnel are not solely responsible for ETD but also for other types of equipment, in particular EDS. Therefore, only a limited proportion of personnel is to be transferred as part of the Divestment Business of 21 December 2016, which would nevertheless represent Morpho Detection's good faith estimate of the level of in-house staffing needed for the Divestment Business of 21 December 2016 to function effectively.²⁵⁹

ETD, rather than the more obvious and natural divestiture of the entire Morpho ETD business as a whole."

²⁵⁶ See for example reply of a competitor to T1 – Competitors and regulators, question 9.1.1: *"The personnel, infrastructure, equipment and supply contracts serve both desktop and non-desktop business in an integrated manner. The commercial viability of the divested business in the future would be much better ensured if the entire ETD product line was divested, rather than just the desktop ETD line."* See also reply of an end-user to T2 – Distributors and end-users, question 1.1: *"Splitting the Trace-Business into two separate pieces (desktop vs Portal, Handheld) would disrupt many synergies within divestment business as many resources are used for the entire Trace business. This could disrupting the research progress for new products as well as the product support."*

²⁵⁷ Smiths' reply to RFI 9 of 04 January 2017.

²⁵⁸ Smiths' reply to RFI 9 of 04 January 2017, questions 1 and 2.

²⁵⁹ Smiths' reply to RFI 9 of 04 January 2017, question 12.

- (258) For contracts with third parties, Smiths submits that the majority of Morpho Detection's agreements and purchase orders with its suppliers as well as agreements with its distributors cover both desktop and handheld ETD products. It claims that those agreements will be transferred to the Divestment Business of 21 December 2016, while the merged entity will negotiate, as required, new agreements with suppliers and distributors for the retained handheld ETD business.²⁶⁰ Smiths nevertheless indicates that distributors tend not to enter into agreements with different manufacturers to sell competing products.²⁶¹
- (259) For intellectual property rights, Smiths claims that there is no risk that the non-exclusive nature of the licences for the rights commercialised in relation to both desktop and handheld ETD impedes the operation or the development of new ETD technologies or products.
- (260) The Commission considers that the Commitments of 21 December 2016 do not fulfil the essential acceptability condition according to which the divested activities must consist of a viable business that, if operated by a suitable purchaser, can compete effectively with the merged entity on a lasting basis and that is divested as a going concern.²⁶²
- (261) In particular, the carving-out of the sole desktop ETD business requires the following operations, which pose risks for the viability of the Divestment Business of 21 December 2016²⁶³ as well as for the proper implementation and monitoring of the Commitments of 21 December 2016.²⁶⁴
- (262) First, it requires the allocation of personnel, rights and assets between the Divestment Business of 21 December 2016 and the handheld ETD business

²⁶⁰ Smiths' reply to RFI 9 of 04 January 2017, questions 3 and 14.

²⁶¹ Smiths' reply to RFI 9 of 04 January 2017, question 15.

²⁶² Remedies Notice, paragraph 23. This includes, under certain conditions, businesses that have to be carved out from a party's business or individual assets (Remedies Notice, paragraphs 35 and following).

²⁶³ See for example reply of a distributor to T2 – Distributors and end-users, question 3.1: *"The desktop ETD business as proposed with its limitations and reduced access to licenses and productions facilities by itself will not survive and will become a major loss to the purchaser. / The purchaser needs to acquire the entire ETD business to have success. / No limitations should be applied to the acquisition to the entire production facilities which currently manufacture the desktop and the non-desktop products, supply chain, know-how, quality, engineering, assets, algorithms, exclusive license on intellectual property, all assets in general, access to the distributors, customers, sales contracts etc."* See also reply of an end-user to T2 – Distributors and end-users, question 5.2.3: *"To keep the technology, product and market integrity the trace-business has always been sold as a whole unit. Ion Track Instruments was the original Trace-Detection manufacturer (Desktop, Handheld and Portal) They were purchased as a whole by GE Security who eventually sold the Trace-Business as a whole to Morpho Detection. It is our experience out of 20 years, that this will result in a stable and competitive setup."*

²⁶⁴ See reply of a competitor to T1 – Competitors and regulators, question 12.1.2: *"In addition, the fact that the personnel, infrastructure, equipment and supply contracts serve both desktop and non-desktop EDT business in an integrated manner, will likely render the task of monitoring effective compliance of Smiths/Morpho with the proposed commitments most difficult"*. See also reply of a competitor to T1 – Competitors and regulators, question 1: *"The combined entity would be able to use the core Morpho ETD technology to create a new desktop, thereby forcing the purchaser to compete against both a desktop and a handheld using the same core technology as the divested business."*

retained by Smiths post-Transaction, based on methods which do not seem to reflect the industrial processes involved in the development and production of ETD.²⁶⁵

- (263) Second, the limitation of the Divestment Business of 21 December 2016 to desktop ETD results in the identification of only two patents being exclusively related to desktop ETD and actually included in the Divestment Business of 21 December 2016. For the much longer list of intellectual property rights related to both desktop and handheld ETD,²⁶⁶ the divestiture of one of the two formats requires the setting up of licensing agreements, which might be unduly used by Smiths to impede the successful operation of the Divestment Business of 21 December 2016 by a competitor.²⁶⁷ Furthermore, there are some technologies, including IMS-related technology, and projects developed by Morpho Detection for handheld ETD that are not comprised in the Commitments of 21 December 2016, while they could in principle be used for desktop ETD as well.²⁶⁸
- (264) Third, it requires the duplication of the distribution contracts currently covering both desktop and handheld ETD, with the risk that some current distributors choose to opt out from contracts with a manufacturer of only desktop ETD, thus depriving the purchaser of the Divestment Business of 21 December 2016 of the local networks essential to the supply of equipment and after-sales services, or to stay with the merged entity, thus limiting the revenues of the Divestment Business of 21 December 2016.²⁶⁹

²⁶⁵ Smiths considers that re-certification of the desktop ETD products upon transfer of the Divestment Business of 21 December 2016 is not necessary. ECAC indicates that "*if there are no changes in the production of the ETD systems that could affect their performance then no additional tests would be required, in the field of aviation, but if there are critical changes in the components (e.g. change of component providers, etc.) then the ETD systems would need to go through the testing process again under the ECAC CEP. This is the case for any critical change to a security equipment configuration*" (ECAC reply to T1 – Competitors and regulators, question 7).

²⁶⁶ The list of intellectual property rights shared between the Divestment Business of 21 December 2016 and other products retained by the merged entity as set out in Annex 2 to the Commitments of 21 December 2016 is incomplete. Morpho Detection has itself identified ten additional patents which have been recently obtained which would be necessary to operate the Divestment Business of 21 December 2016 as presented in the Commitments of 21 December 2016 (Smiths' reply to RFI 9 of 04 January 2017, question 8).

²⁶⁷ The Remedies Notice, in paragraph 38, considers that in particular that "*the granting of a license involve more uncertainties, (...), requires an on-going relationship with the parties which may allow the licensor to influence the licensee in its competitive behaviour and may give rise to disputes between the licensor and the licensee over the scope and the terms and conditions of the license.*" This consideration applies also in the present case. See, as an illustration, reply of an end-user to T2 – Distributors and end-users, question 2.1.1: "*The proposed measures would allow a purchaser to just sustain the current technology, but without owning the patents to the underlying ITMS Detection Technology, the purchaser may not be able to participate when the current generation of trace detection equipment is coming up for replacement. / It is therefore our opinion that the entire Trace Detection side of Morpho Detection should be divested along with the associated intellectual property rights and patents in order to ensure that the divested trace detection business area of Morpho Detection can survive and compete with Smiths Detection in the marketplace.*"

²⁶⁸ Smiths' reply to RFI 9 of 04 January 2017, question 18.

²⁶⁹ See for example reply of a competitor to T1 – Competitors and regulators, question 4.1.1: "*If the divested business' existing [distribution] channels are compelled to choose between the EDS business of Morpho or the divested Desktop ETD business, then these channels could choose to*

- (265) The Commission notes that Smiths, like Morpho Detection, relies for the sales and servicing of its ETD products on a hybrid system involving direct supply by its personnel and indirect supply by its distributors. Therefore, the incentive of Smiths to enter into new agreements post-Transaction for handheld ETD with Morpho Detection's current distributors may be seen as limited, as may be seen the incentive of Morpho Detection's current distributors to stay with Smiths post-Transaction. However, the incentive of Smiths and that of Morpho Detection's current distributors are reinforced by the higher efficiency and better reputation that Morpho Detection's distribution and servicing network enjoys compared to Smiths' network.²⁷⁰
- (266) In accordance with paragraph 26 of the Remedies Notice, "*personnel and assets which are currently shared between the business to be divested and other businesses of the parties, but which contribute to the operation of the business or which are necessary to ensure its viability and competitiveness, also have to be included. Otherwise, the viability and competitiveness of the business to be divested would be endangered.*" The Commission therefore finds that the scope of the Divestment Business of 21 December 2016 should be extended to cover both Morpho Detection's desktop and handheld ETD businesses, including the necessary intellectual property rights for the development and production of ETD.²⁷¹
- (ii) The scope of the Divestment Business of 21 December 2016 excludes other technologies than IMS*
- (267) While Smiths claims that the inclusion of mass spectrometry technology is not necessary to ensure the viability of the Divestment Business of 21 December 2016, notably because the future acceptance of this technology in a commercial product remains uncertain, that statement appears to contradict the position Smiths expresses in some of its internal documents.²⁷²
- (268) Moreover, several market participants see IMS as a mature technology which is gradually being replaced by next generation technologies such as mass spectrometry and consider that the latter technology is key to ensure the competitiveness in the ETD markets in the near future.²⁷³

forego the ETD business which is much lower in value. Such instances are likely to occur because a particular channel serves the same EDS and Desktop ETD customer (eg. airports) in a particular country/market space."

²⁷⁰ See for example Form CO, Supporting Document 5.4(21) – [...] update (Smiths' document), slide 9: "[strategy]". Smiths explains that those statements relate to Morpho Detection's [strategy]. In addition, Smiths submits that, post-Transaction, the merged entity will be able to [strategy] (Smiths' reply to QP3, question 14).

²⁷¹ For the business to be viable, it may also be necessary to include activities which are related to markets where the Commission did not identify competition concerns if this is required to create an effective competitor in the affected markets (Remedies Notice, paragraph 23).

²⁷² See for example Smiths' reply to QP4, Annex Q25a(xx) – "[strategy]."

²⁷³ See for example reply of ECAC to T1 – Competitors and regulators, question 3: "*The ETD business requires the following research and development activities (...) - Development of new technologies to complement IMS. IMS is the most extended technology for ETD in aviation, but also exists other ETD developments that use mass spectrometry (MS), with higher level of accuracy, or capillary zone electrophoresis (CZE), for the detection of inorganic explosives.*" See

- (269) In addition, the market investigation carried out during Phase I has not demonstrated that the ETD markets should be segmented by technology.²⁷⁴
- (270) In this context, the Commission considers that pipeline desktop ETD which would replace Morpho Detection's existing desktop ETD in the near term, notably mass spectrometry-based ETD, should be included in the Divestment Business of 21 December 2016 to create an effective competitor in the affected markets.²⁷⁵

Suitability of the purchaser criteria and interested market participants

- (271) The intended effect of the divestiture will only be achieved if and once the business is transferred to a suitable purchaser in whose hands it will become an active competitive force in the market. The potential of a business to attract a suitable purchaser is an important element of the Commission's assessment of the appropriateness of the proposed commitment.²⁷⁶
- (272) The majority of respondents to the market test consider that a purchaser meeting the requirements set out in the Commitments of 21 December 2016 (in particular the requirement to have an [industrial background]) would be able to operate the Divestment Business of 21 December 2016 in an effective and competitive way,²⁷⁷ in particular if the Divestment Business of 21 December 2016 encompasses personnel with experience and know-how of the aviation sector.²⁷⁸ The transfer of such personnel would ensure that the purchaser acquires the specific knowledge required to sell equipment and provide services to airports, which according to some respondents, is necessary for the purchaser to compete effectively with the merged entity.²⁷⁹
- (273) A number of respondents indicate some degree of interest for acquiring the Divestment Business of 21 December 2016.²⁸⁰ However, those among them that are likely to fulfil the purchaser criteria indicate that the attractiveness of the Divestment Business of 21 December 2016 and the successful implementation of their business plan would largely depend on the extension of the scope of the

also reply of a competitor to T1 – Competitors and regulators, question 13: "*First, the business unit divested must include exclusive use of all intellectual property rights that contribute to the desktop ETD as it stands today and all future iterations of such systems, including the new MS platform.*"

²⁷⁴ See Section 4.3.1 above.

²⁷⁵ Moreover, the business to be divested has to be viable as such. Therefore, the resources of a possible or even presumed future purchaser are not taken into account by the Commission at the stage of assessing the remedy. Remedies Notice, paragraph 30.

²⁷⁶ Remedies Notice, paragraph 47.

²⁷⁷ Replies to T1 – Competitors and regulators, question 10; and replies to T2 – Distributors and end-users, question 3.

²⁷⁸ See for example reply of a competitor to T1 – Competitors and regulators, question 4: "*the divested business would require a global sales and distribution network that, first and foremost, has close relationships with aviation security regulators and aviation security customers.*"

²⁷⁹ See replies to T1 – Competitors and regulators, question 10.1 and replies to T2 – Distributors and end-users, question 3.1. See also submission by a competitor of 13 January 2017.

²⁸⁰ Replies to T1 – Competitors and regulators, question 12.3.

Divestment Business of 21 December 2016 to the entire Morpho Detection's ETD business.²⁸¹

6.3.3. Conclusion

- (274) In view of the above, the Commission considers that the Commitments of 21 December 2016 would not ensure with the requisite degree of certainty that the commitments will be possible to implement and that the new commercial structures resulting from them would be sufficiently workable and lasting to eliminate the serious doubts as to the compatibility of the Transaction with the internal market.

6.4. The Final Commitments

6.4.1. Description

- (275) The Final Commitments consist of the divestment of Morpho Detection's global ETD business (the "Final Divestment Business"). According to Smiths, the worldwide turnover of the Final Divestment Business was EUR [turnover] million in 2015 and EUR [turnover] million in 2016. In addition to the Divestment Business of 21 December 2016, the scope of the Final Divestment Business also includes Morpho Detection's (i) non-desktop ETD, i.e. its handheld products (MobileTrace and Hardened MobileTrace) and its portal product (EntryScan 4); and (ii) non-IMS technologies relating primarily to ETD, in particular mass spectrometry and high volume particle vapour sampling technologies.
- (276) More specifically, the Final Divestment Business comprises notably the following elements linked to the development, manufacture, sale and provision of after-sales services by Morpho Detection of its full ETD product range:
- (a) Infrastructure, equipment and supply:
 - i. the assignment of the lease (or, alternatively, the sublease) of a manufacturing facility in the USA, of an R&D facility in the USA and of a sales/service depot in the UK;
 - ii. production, quality, and manufacturing, engineering and R&D equipment used to develop, produce or support production of ETD;
 - iii. the transfer of all agreements with Morpho Detection's current suppliers relating to ETD (if possible);
 - (b) Intellectual property rights:
 - i. the transfer of the intellectual property rights commercialised (i) exclusively for ETD or (ii) used in relation to all parts and consumables for ETD;
 - ii. non-exclusive, irrevocable, worldwide, royalty-free licences of the intellectual property rights commercialised in relation to both ETD and any products retained by Morpho Detection;
 - (c) Research and development:

²⁸¹ Replies to T1 – Competitors and regulators, questions 12.3.1 to 12.3.5.

- i. Morpho Detection's intellectual property rights in mass spectrometry for use in ETD and prototype ETD products employing this technology, subject to a non-exclusive, irrevocable, worldwide, royalty-free licence back to Smiths and/or Morpho Detection in relation to products other than ETD;
- ii. Morpho Detection's intellectual property rights in its pipeline high volume particle vapour sampling technology, subject to a non-exclusive, irrevocable, worldwide, royalty-free licence back to Smiths and/or Morpho Detection in relation to products other than Morpho Detection's ETD;²⁸²
- iii. to the extent not already referred to in the previous two points, Morpho Detection's intellectual property rights in its product pipeline relating wholly or primarily to ETD;

(d) Distribution and servicing:

- i. the transfer of all agreements with Morpho Detection's current distributors relating to the sale and servicing of ETD (if possible);
- ii. the assignment of servicing contracts relating to ETD;
- iii. the transfer of all agreements with Morpho Detection's current customers relating to the sale and servicing of ETD (if possible);

(e) Personnel allocated to ETD.

(277) The Final Commitments contain undertakings related to the Final Divestment Business similar to those provided for in the Commitments of 21 December 2016, notably in terms of preservation of its viability and appointment of a Monitoring Trustee (see recital 250 above).

6.4.2. *Assessment*

6.4.2.1. Smiths' views

(278) Smiths considers that the Final Commitments eliminate any hypothetical concern in relation to the Transaction, as they go further than needed to remedy the concerns identified in desktop ETD.

(279) In addition, the viability of the Final Divestment Business was proven through its previous acquisition by Safran as a separate business in 2012.²⁸³

6.4.2.2. Commission's assessment

(280) The Commission considers that the Final Commitments solve the concerns raised by the Commitments of 21 December 2016 in terms of viability and competitiveness of the business to be divested.

(281) First, the divestment of Morpho Detection's entire ETD business line removes the problems created by the shared use of personnel, rights and assets for the

²⁸² [Strategy]. Form RM, paragraph 32.

²⁸³ Form RM, paragraph 15.

development and production of the different ETD products. As e.g. underlined during the market test of the Commitments of 21 December 2016, "*a more pragmatic and effective mitigation against the anti-competitive effects stemming from the Proposed Transaction would be a divestiture of the Morpho ETD business in its integral entirety, including both desktop and handheld products and associated assets and personnel. Such a divestiture would maximize the likelihood that the divested business would immediately be able to compete in the EU post-transaction, and sustainable in the long-term.*"²⁸⁴

- (282) The extension of the scope of the divested activities is accompanied by the transfer of the intellectual property rights used for both desktop and handheld ETD. This is a more structural solution than the granting of non-exclusive licences initially foreseen. In particular, such a transfer gives the possibility to sever the relationship between the merged entity and the purchaser of the Final Divestment Business for the supply of ETD, thus to foster competition between them in the ETD markets.²⁸⁵ The Commission considers that the requirement borne by the purchaser of the Final Divestment Business to grant a licence back to the merged entity for the use of mass spectrometry and high volume particle vapour sampling in relation to, respectively, non-ETD products and other products than Morpho Detection's ETD is appropriate. Indeed, it does not pose risks for future competition on the ETD markets while it maintains the opportunity for Smiths to exploit the innovation efforts undertaken by Morpho Detection and to apply Morpho Detection's pipeline technologies to other types of threat detection equipment than ETD.²⁸⁶
- (283) Second, the transfer as part of the Final Divestment Business of key enabling technologies for ETD, such as mass spectrometry, ensures that the viability of the Final Divestment Business is not compromised in the medium term. This also solves the concerns relating to the retention of the intellectual property rights for the next generation of ETD. Furthermore, it encourages the purchaser of the Final Divestment Business to continue investing in research and development, in order to release a new generation of ETD as soon as possible and to be well placed to benefit from any future regulatory change or wave of ETD procurement.
- (284) Third, Smiths confirms that the personnel attached to the Final Divestment Business include sales staff with significant experience dealing directly with regulated customers, as well as service staff currently responsible for the training of personnel to service ETD. The Commission therefore considers that personnel of the Final Divestment Business have relevant experience with regulated customers, which, together with the transfer of the other rights, agreements and assets included in the Final Divestment Business, appears sufficient to enable a suitable purchaser [industrial background] to immediately compete with the

284 Reply of a competitor to T1 – Competitors and regulators, question 1.

285 See for example reply of a competitor to T1 – Competitors and regulators, question 1: "*In order to create a sustainable, free-standing ETD business, the business unit divested must include exclusive use of all intellectual property rights that contribute to the desktop ETD product as well as ETD products and technologies now in development, including the New Developments, so that the divested business will not be required to compete against a handheld product (and then later possibly a new desktop) using the same technology.*"

286 [Strategy].

merged entity and to minimise disruption in the servicing of ETD installed in airports.²⁸⁷

- (285) Finally, the Final Commitments, encompassing Morpho Detection's global ETD business, are likely to attract material interest from suitable purchasers.

6.4.3. Conclusion

- (286) In view of the above, the Commission considers that the extension of the scope of the Divestment Business of 21 December 2016 to Morpho Detection's ETD business, including desktop and non-desktop ETD as well as non-IMS technologies for ETD applications, would ensure with the requisite degree of certainty that it will be possible to implement the Final Commitments and that it will be likely that the new commercial structures resulting from them will be sufficiently workable and lasting to eliminate any serious doubts as to the compatibility of the Transaction with the internal market.

7. CONDITIONS AND OBLIGATIONS

- (287) Under the first sentence of the second subparagraph of Article 6(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 a notified concentration compatible with the internal market.
- (288) The fulfilment of the measures that give rise to the structural change of the market is a condition, whereas the implementing steps which are necessary to achieve this result are generally obligations on the parties. Where a condition is not fulfilled, the Commission's decision declaring the concentration compatible with the internal 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 6(3) of the Merger Regulation. The undertakings concerned may also be subject to fines and periodic penalty payments under Articles 14(2) and 15(1) of the Merger Regulation.
- (289) In accordance with the distinction described above, the commitments set out in Section B of Annex 1 constitute conditions attached to this Decision, as only through full compliance therewith can the structural changes in the relevant markets be achieved. The other commitments set out in Annex 1 constitute obligations, as they concern the implementing steps which are necessary to achieve the modifications sought in a manner compatible with the internal market. Accordingly, the Decision not to raise objections is made conditional on full compliance by Smiths with Section B of the Commitments and the remaining sections of the Commitments constitute obligations on Smiths.

²⁸⁷ See for example reply of a competitor to T1 – Competitors and regulators, question 1: "*For uninterrupted support of the current installed base (this includes a variety of iterations of the desktop ETD products), it is essential that the service organization is able to maintain, without disruption to the end user, all the necessary knowledge, service tools, spare parts and contracts related to such support. The current installed base and backlog of systems identified for sale into both the regulated and non-regulated markets, once divested, will have to be fully supported with no interruption.*"

(290) The detailed text of the Final Commitments is attached as Annex 1 to this Decision and forms an integral part to it.

8. CONCLUSION

(291) For the above reasons, the Commission has decided not to oppose the Transaction as modified by the Final Commitments and to declare it compatible with the internal market and with the functioning of the EEA Agreement, subject to full compliance with the conditions in Section B of the Final Commitments annexed to the present Decision and with the obligations contained in the other sections of the Final Commitments. This decision is adopted in application of Article 6(1)(b) in conjunction with Article 6(2) of the Merger Regulation and Article 57 of the EEA Agreement.

For the Commission

(Signed)

Margrethe VESTAGER

Member of the Commission

Case M.8087 – SMITHS GROUP/MORPHO DETECTION

COMMITMENTS TO THE EUROPEAN COMMISSION

Pursuant to Article 6(2) of Council Regulation (EC) No 139/2004 (the “**Merger Regulation**”), Smiths Group plc (“**Smiths**”) (the “**Notifying Party**”) hereby enters into the following Commitments (the “**Commitments**”) vis-à-vis the European Commission (the “**Commission**”) with a view to rendering the acquisition of sole control over Morpho Detection, LLC and Morpho Detection International, LLC (together, “**Morpho Detection**”) by Smiths Detection, US Holdings, LLC, an indirect wholly owned subsidiary of Smiths (the “**Concentration**”) compatible with the internal market and the functioning of the EEA Agreement.

This text shall be interpreted in light of the Commission’s decision pursuant to Article 6(1)(b) of the Merger Regulation to declare the Concentration compatible with the internal market and the functioning of the EEA Agreement (the “**Decision**”), in the general framework of European Union law, in particular in light of the Merger Regulation, and by reference to the Commission Notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004 (the “**Remedies Notice**”).

SECTION A. DEFINITIONS

1. For the purpose of the Commitments, the following terms shall have the following meaning:

Affiliated Undertakings: undertakings controlled by the Parties whereby the notion of control shall be interpreted pursuant to Article 3 of the Merger Regulation and in light of the Commission Consolidated Jurisdictional Notice under Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings (the “**Consolidated Jurisdictional Notice**”).

Assets: the assets that contribute to the current operation or are necessary to ensure the viability and competitiveness of the Divestment Business as indicated in Section B, paragraphs 6 to 8 and described more in detail in the Schedule.

Closing: the transfer of the legal title to the Divestment Business to the Purchaser.

Closing Period: the period of [redacted] months from the approval of the Purchaser and the terms of sale by the Commission.

Confidential Information: any business secrets, know-how, commercial information, or any other information of a proprietary nature that is not in the public domain.

Conflict of Interest: any conflict of interest that impairs the Trustee’s objectivity and independence in discharging its duties under the Commitments.

Divestment Business: the business or businesses as defined in Section B and in the Schedule which the Notifying Party commits to divest.

Divestiture Trustee: one or more natural or legal person(s) who is/are approved by the Commission and appointed by the Notifying Party and who has/have received from the Notifying Party the exclusive Trustee Mandate to sell the Divestment Business to a Purchaser at no minimum price.

Effective Date: the date of adoption of the Decision.

First Divestiture Period: the period of [redacted] months from the Effective Date.

Hold Separate Manager: the person appointed by the Notifying Party for the Divestment Business to manage the day-to-day business under the supervision of the Monitoring Trustee.

Key Personnel: all personnel necessary to maintain the viability and competitiveness of the Divestment Business, as listed in the Schedule, including the Hold Separate Manager.

Monitoring Trustee: one or more natural or legal person(s) who is/are approved by the Commission and appointed by the Notifying Party and who has/have the duty to monitor the Parties' compliance with the conditions and obligations attached to the Decision.

Parties: the Notifying Party and Morpho Detection.

Personnel: all staff currently employed by the Divestment Business, including staff seconded to the Divestment Business, shared personnel as well as the additional personnel listed in the Schedule.

Purchaser: the entity approved by the Commission as acquirer of the Divestment Business in accordance with the criteria set out in Section D.

Purchaser Criteria: the criteria laid down in paragraph 18 of these Commitments that the Purchaser must fulfil in order to be approved by the Commission.

Schedule: the schedule to these Commitments describing more in detail the Divestment Business.

Trustee(s): the Monitoring Trustee and/or the Divestiture Trustee as the case may be.

Trustee Divestiture Period: the period of [redacted] months from the end of the First Divestiture Period.

SECTION B. THE COMMITMENT TO DIVEST AND THE DIVESTMENT BUSINESS

Commitment to divest

2. In order to maintain effective competition, the Notifying Party commits to divest, or procure the divestiture of, the Divestment Business by the end of the Trustee Divestiture Period as a going concern to a purchaser and on terms of sale approved by the Commission in accordance with the procedure described in paragraph 19 of these Commitments. To carry out the divestiture, the Notifying Party commits to find a purchaser and to enter into a final binding sale and purchase agreement for the sale of the Divestment Business within the First Divestiture Period. If the Notifying Party has not entered into such an agreement at the end of the First Divestiture Period, the Notifying Party shall grant the Divestiture Trustee an exclusive mandate to sell the Divestment Business in accordance with the procedure described in paragraph 31 in the Trustee Divestiture Period.

3. The Notifying Party shall be deemed to have complied with this commitment if:
 - (a) by the end of the Trustee Divestiture Period, the Notifying Party, Morpho Detection, any Affiliated Undertakings or the Divestiture Trustee has entered into a final binding sale and purchase agreement and the Commission approves the proposed purchaser and the terms of sale as being consistent with the Commitments in accordance with the procedure described in paragraph 19; and
 - (b) the Closing of the sale of the Divestment Business to the Purchaser takes place within the Closing Period.
4. In order to maintain the structural effect of the Commitments, the Notifying Party shall, for a period of 10 years after Closing, not acquire, whether directly or indirectly, the possibility of exercising influence (as defined in paragraph 43 of the Remedies Notice, footnote 3) over the whole or part of the Divestment Business, unless, following the submission of a reasoned request from the Notifying Party showing good cause and accompanied by a report from the Monitoring Trustee (as provided in paragraph 45 of these Commitments), the Commission finds that the structure of the market has changed to such an extent that the absence of influence over the Divestment Business is no longer necessary to render the proposed concentration compatible with the internal market.

Structure and definition of the Divestment Business

5. The Divestment Business consists of Morpho Detection's global Trace business and comprises all of the elements of Morpho Detection's existing business required for the development, manufacture, sale and provision of aftermarket services for its Trace product range as set out in Annex A, (the *Trace Products*).
6. More particularly, the Divestment Business includes, subject to paragraph 8:
 - (a) the assignment of the lease (or, alternatively, the sublease) of the following facilities currently used by Morpho Detection for its global Trace business:
 - (i) R&D and manufacturing facility located at Andover, Massachusetts;
 - (ii) R&D facility located at Santa Ana, California; and
 - (iii) sales/service depot located at Cambridge in the UK.
 - (b) in relation to the Trace Products:
 - (i) the transfer of Morpho Detection's intellectual property rights commercialised exclusively in relation to the Trace Products, as set out in Annex B;
 - (ii) the transfer of Morpho Detection's intellectual property rights used in relation to all parts and consumables for the Trace Products (and their predecessors), as set out in Annex B;
 - (iii) a non-exclusive, irrevocable, worldwide, royalty-free licence of Morpho Detection's intellectual property rights commercialised in

relation to both the Trace Products and any products retained by Morpho Detection, as set out in Annex C; and

in each case as at the time when the legal title to the Divestment Business is transferred to the Purchaser;

- (c) the Trace Products repair depot equipment and a copy of related know-how;
- (d) the assignment of servicing contracts to the extent relating to the Trace Products;
- (e) inventories associated exclusively with the Trace Products and their predecessors;
- (f) production, quality, and manufacturing, engineering and R&D equipment used to develop, produce or support production of the Trace products;
- (g) all assets used by the development organisation to customise and develop new algorithms on the Trace Products;
- (h) transitional support arrangements for a period no longer than [redacted] months to ensure the operation of the Divestment Business until it has been established by, and migrated to, the Purchaser;
- (i) all personnel necessary to ensure the viability of the Divestment Business, including all key personnel, to produce, sell, support and develop the Trace Products activities, as set out in Annex E and Annex F;
- (j) the transfer of all agreements with Morpho Detection's current distributors to the extent relating to the sale and servicing of Trace Products, or (where this is not possible) to use reasonable efforts to introduce the Purchaser to these distributors;
- (k) the transfer of all agreements with Morpho Detection's current customers to the extent relating to the sale and servicing of Trace Products, or (where this is not possible) to use reasonable efforts to introduce the Purchaser to these customers;
- (l) the transfer of all agreements with Morpho Detection's current suppliers to the extent relating to Trace Products, or (where this is not possible) to use reasonable efforts to introduce the Purchaser to these suppliers;
- (m) the disclosure of customer records and full information about the terms of customer contracts with all of the Divestment Business's customers to the extent relating to the purchase of the Divestment Business;
- (n) Morpho Detection's intellectual property rights in its Mass Spectrometry (MS) technology for use in Trace products and consumables and any existing prototype Trace products employing this technology, subject to a non-exclusive, irrevocable, worldwide, royalty-free licence back to Smiths and/or Morpho Detection and their affiliates in relation to products other than Trace products (see Annex D);
- (o) Morpho Detection's intellectual property rights in its pipeline [redacted], subject to a non-exclusive, irrevocable, worldwide, royalty-free licence

back to Smiths and/or Morpho Detection and their affiliates in relation to products other than Morpho Detection's Trace Products (see Annex D); and

- (p) to the extent not already referred to above, Morpho Detection's intellectual property rights in its product pipeline relating wholly or primarily to Trace Products.
7. The Purchaser of the Divestment Business will be required to enter into transitional support arrangements with Smiths and/or Morpho Detection or their affiliates for a period no longer than [redacted] months to ensure the operation of the non-Trace business retained by Morpho Detection until it has been established by, and migrated to, Smiths and/or Morpho Detection or their affiliates.
8. The Divestment Business does not include any right, title, or interest in or to:
- (a) Morpho Detection's non-Trace Products businesses, including any intellectual property rights which are exclusively commercialised in relation to non-Trace Products;
 - (b) Morpho Detection's trade marks (and related rights), nor any right to use the word "Morpho" or "Morpho Detection";
 - (c) ¹
 - (d) any technologies or intellectual property rights not used in Trace Products;
 - (e) any rights to technologies which relate to networking functionality for non-Trace products;
 - (f) any rights in Morpho Detection's subcontract with Leidos, for the servicing of checkpoint equipment deployed by the US Transportation Security Administration, including Morpho Detection's Trace equipment; the Purchaser will be required to enter an agreement with Smiths/Morpho Detection or their affiliates to provide consumables and parts, and any necessary services, for the Trace Products covered by the subcontract with Leidos;
 - (g) the personnel required in relation to 8(f) above; and
 - (h) Morpho Detection's webstore.
9. The legal and functional structure of the Divestment Business as operated to date is described in the Schedule. The Divestment Business, described in more detail in the Schedule, includes all assets and staff that contribute to the current operation or are necessary to ensure the viability and competitiveness of the Divestment Business, in particular:
- (a) all tangible and intangible assets (including intellectual property rights);

¹ [redacted].

- (b) all licences, permits and authorisations issued by any governmental organisation for the benefit of the Divestment Business;
- (c) all contracts, leases, commitments and customer orders of the Divestment Business; all customer, credit and other records of the Divestment Business; and
- (d) the Personnel.

SECTION C. RELATED COMMITMENTS

Preservation of viability, marketability and competitiveness

10. From the Effective Date until Closing, the Parties shall preserve or procure the preservation of the economic viability, marketability and competitiveness of the Divestment Business, in accordance with good business practice, and shall minimise as far as possible any risk of loss of competitive potential of the Divestment Business. In particular the Parties undertake:
 - (a) not to carry out any action that might have a significant adverse impact on the value, management or competitiveness of the Divestment Business or that might alter the nature and scope of activity, or the industrial or commercial strategy or the investment policy of the Divestment Business;
 - (b) to make available, or procure to make available, sufficient resources for the development of the Divestment Business, on the basis and continuation of the existing business plans;
 - (c) to take all reasonable steps, or procure that all reasonable steps are being taken, including appropriate incentive schemes (based on industry practice), to encourage all Key Personnel to remain with the Divestment Business, and not to solicit or move any Personnel to the remaining businesses of the Parties. Where, nevertheless, individual members of the Key Personnel exceptionally leave the Divestment Business, the Notifying Party shall provide a reasoned proposal to replace the person or persons concerned to the Commission and the Monitoring Trustee. The Notifying Party must be able to demonstrate to the Commission that the replacement is well suited to carry out the functions exercised by those individual members of the Key Personnel. The replacement shall take place under the supervision of the Monitoring Trustee, who shall report to the Commission.

Hold-separate obligations

11. The Parties commit, from the Effective Date until Closing, to keep the Divestment Business separate from the business the Notifying Party is retaining and to ensure that unless explicitly permitted under these Commitments: (i) management and staff of the businesses retained by the Notifying Party have no involvement in the Divestment Business; (ii) the Key Personnel and Personnel of the Divestment Business have no involvement in any business retained by the Notifying Party and do not report to any individual outside the Divestment Business.
12. Until Closing, the Parties shall assist the Monitoring Trustee in ensuring that the Divestment Business is managed as a distinct and saleable entity separate from

the businesses which the Notifying Party is retaining. Immediately after the adoption of the Decision, the Notifying Party shall appoint a Hold Separate Manager. The Hold Separate Manager, who shall be part of the Key Personnel, shall manage the Divestment Business independently and in the best interest of the business with a view to ensuring its continued economic viability, marketability and competitiveness and its independence from the business retained by the Notifying Party. The Hold Separate Manager shall closely cooperate with and report to the Monitoring Trustee and, if applicable, the Divestiture Trustee. Any replacement of the Hold Separate Manager shall be subject to the procedure laid down in paragraph 10(c) of these Commitments. The Commission may, after having heard the Notifying Party, require the Notifying Party to replace the Hold Separate Manager.

Ring-fencing

13. The Parties shall implement, or procure to implement, all necessary measures to ensure that they do not, after the Effective Date, obtain any Confidential Information relating to the Divestment Business and that any such Confidential Information obtained by the Parties before the Effective Date will be eliminated and not be used by the Parties. In particular, the participation of the Divestment Business in any central information technology network shall be severed to the extent possible, without compromising the viability of the Divestment Business. The Parties may obtain or keep information relating to the Divestment Business which is reasonably necessary for the divestiture of the Divestment Business or the disclosure of which to the Parties are required by law.

Non-solicitation clause

14. The Parties undertake, subject to customary limitations, not to solicit, and to procure that Affiliated Undertakings do not solicit, the Key Personnel transferred with the Divestment Business for a period of [redacted] years after Closing.

Due diligence

15. In order to enable potential purchasers to carry out a reasonable due diligence of the Divestment Business, the Parties shall, subject to customary confidentiality assurances and dependent on the stage of the divestiture process:
 - (a) provide to potential purchasers sufficient information as regards the Divestment Business; and
 - (b) provide to potential purchasers sufficient information relating to the Personnel and allow them reasonable access to the Personnel.

Reporting

16. The Notifying Party shall submit written reports in English on potential purchasers of the Divestment Business and developments in the negotiations with such potential purchasers to the Commission and the Monitoring Trustee no later than 10 days after the end of every month following the Effective Date (or otherwise at the Commission's request). The Notifying Party shall submit a list of all potential purchasers having expressed interest in acquiring the Divestment Business to the Commission at each and every stage of the divestiture process, as well as a copy of all the offers made by potential purchasers within five days of their receipt.

17. The Notifying Party shall inform the Commission and the Monitoring Trustee on the preparation of the data room documentation and the due diligence procedure and shall submit a copy of any information memorandum to the Commission and the Monitoring Trustee before sending the memorandum out to potential purchasers.

SECTION D. THE PURCHASER

18. In order to be approved by the Commission, the Purchaser must fulfil the following criteria:
 - (a) The Purchaser shall be independent of and unconnected to the Parties and their Affiliated Undertakings (this being assessed having regard to the situation following the divestiture).
 - (b) The Purchaser shall have [redacted: industrial background] the financial resources, proven expertise and incentive to maintain and develop the Divestment Business as a viable and active competitive force in competition with the Notifying Party and other competitors;
 - (c) The acquisition of the Divestment Business by the Purchaser must neither be likely to create, in light of the information available to the Commission, prima facie competition concerns nor give rise to a risk that the implementation of the Commitments will be delayed. In particular, the Purchaser must reasonably be expected to obtain all necessary approvals from the relevant regulatory authorities for the acquisition of the Divestment Business.
19. The final binding sale and purchase agreement (as well as ancillary agreements) relating to the divestment of the Divestment Business shall be conditional on the Commission's approval. When the Notifying Party or Affiliated Undertakings has reached an agreement with a purchaser, it shall submit a fully documented and reasoned proposal, including a copy of the final agreement(s), within one week to the Commission and the Monitoring Trustee. The Notifying Party must be able to demonstrate to the Commission that the purchaser fulfils the Purchaser Criteria and that the Divestment Business is being sold in a manner consistent with the Commission's Decision and the Commitments. For the approval, the Commission shall verify that the purchaser fulfils the Purchaser Criteria and that the Divestment Business is being sold in a manner consistent with the Commitments including their objective to bring about a lasting structural change in the market. At the request of the Notifying Party, the Commission may approve the sale of the Divestment Business without one or more Assets or parts of the Personnel, or by substituting one or more Assets or parts of the Personnel with one or more different assets or different personnel, if this does not affect the viability and competitiveness of the Divestment Business after the sale, taking account of the proposed purchaser.

SECTION E. TRUSTEE

Appointment procedure

20. The Notifying Party shall appoint a Monitoring Trustee to carry out the functions specified in these Commitments for a Monitoring Trustee. The Parties commit not to close the Concentration before the appointment of a Monitoring Trustee.

21. If the Notifying Party, Morpho Detection or Affiliated Undertakings have not entered into a binding sale and purchase agreement regarding the Divestment Business one month before the end of the First Divestiture Period or if the Commission has rejected a purchaser proposed by the Notifying Party at that time or thereafter, the Notifying Party shall appoint a Divestiture Trustee. The appointment of the Divestiture Trustee shall take effect upon the commencement of the Trustee Divestiture Period.
22. The Trustee shall:
 - (a) at the time of appointment, be independent of the Parties and their Affiliated Undertakings;
 - (b) possess the necessary qualifications to carry out its mandate, for example have sufficient relevant experience as an investment banker or consultant or auditor; and
 - (c) neither have nor become exposed to a Conflict of Interest.
23. The Trustee shall be remunerated by the Notifying Party in a way that does not impede the independent and effective fulfilment of its mandate. In particular, where the remuneration package of a Divestiture Trustee includes a success premium linked to the final sale value of the Divestment Business, such success premium may only be earned if the divestiture takes place within the Trustee Divestiture Period.

Proposal by the Notifying Party

24. No later than two weeks after the Effective Date, the Notifying Party shall submit the name or names of one or more natural or legal persons whom the Notifying Party proposes to appoint as the Monitoring Trustee to the Commission for approval. No later than one month before the end of the First Divestiture Period or on request by the Commission, the Notifying Party shall submit a list of one or more persons whom the Notifying Party proposes to appoint as Divestiture Trustee to the Commission for approval. The proposal shall contain sufficient information for the Commission to verify that the person or persons proposed as Trustee fulfil the requirements set out in paragraph 22 and shall include:
 - (a) the full terms of the proposed mandate, which shall include all provisions necessary to enable the Trustee to fulfil its duties under these Commitments;
 - (b) the outline of a work plan which describes how the Trustee intends to carry out its assigned tasks;
 - (c) an indication whether the proposed Trustee is to act as both Monitoring Trustee and Divestiture Trustee or whether different trustees are proposed for the two functions.

Approval or rejection by the Commission

25. The Commission shall have the discretion to approve or reject the proposed Trustee(s) and to approve the proposed mandate subject to any modifications it deems necessary for the Trustee to fulfil its obligations. If only one name is

approved, the Notifying Party shall appoint or cause to be appointed the person or persons concerned as Trustee, in accordance with the mandate approved by the Commission. If more than one name is approved, the Notifying Party shall be free to choose the Trustee to be appointed from among the names approved. The Trustee shall be appointed within one week of the Commission's approval, in accordance with the mandate approved by the Commission.

New proposal by the Notifying Party

26. If all the proposed Trustees are rejected, the Notifying Party shall submit the names of at least two more natural or legal persons within one week of being informed of the rejection, in accordance with paragraphs 20 and 25 of these Commitments.

Trustee nominated by the Commission

27. If all further proposed Trustees are rejected by the Commission, the Commission shall nominate a Trustee, whom the Notifying Party shall appoint, or cause to be appointed, in accordance with a trustee mandate approved by the Commission.

Functions of the Trustee

28. The Trustee shall assume its specified duties and obligations in order to ensure compliance with the Commitments. The Commission may, on its own initiative or at the request of the Trustee or the Notifying Party, give any orders or instructions to the Trustee in order to ensure compliance with the conditions and obligations attached to the Decision.

Duties and obligations of the Monitoring Trustee

29. The Monitoring Trustee shall:
- (a) propose in its first report to the Commission a detailed work plan describing how it intends to monitor compliance with the obligations and conditions attached to the Decision.
 - (b) oversee, in close co-operation with the Hold Separate Manager, the on-going management of the Divestment Business with a view to ensuring its continued economic viability, marketability and competitiveness and monitor compliance by the Parties with the conditions and obligations attached to the Decision. To that end the Monitoring Trustee shall:
 - (i) monitor the preservation of the economic viability, marketability and competitiveness of the Divestment Business, and the keeping separate of the Divestment Business from the business retained by the Notifying Party, in accordance with paragraphs 10 and 11 of these Commitments;
 - (ii) supervise the management of the Divestment Business as a distinct and saleable entity, in accordance with paragraph 12 of these Commitments;
 - (iii) with respect to Confidential Information:

- (A) determine all necessary measures to ensure that the Parties do not after the Effective Date obtain any Confidential Information relating to the Divestment Business,
 - (B) in particular strive for the severing of the Divestment Business' participation in a central information technology network to the extent possible, without compromising the viability of the Divestment Business,
 - (C) make sure that any Confidential Information relating to the Divestment Business obtained by the Parties before the Effective Date is eliminated and will not be used by the Parties; and
 - (D) decide whether such information may be disclosed to or kept by the Parties as the disclosure is reasonably necessary to allow the Parties to carry out the divestiture or as the disclosure is required by law;
- (iv) monitor the splitting of assets and the allocation of Personnel between the Divestment Business and the Parties or Affiliated Undertakings;
- (c) propose to the Parties such measures as the Monitoring Trustee considers necessary to ensure the Parties' compliance with the conditions and obligations attached to the Decision, in particular the maintenance of the full economic viability, marketability or competitiveness of the Divestment Business, the holding separate of the Divestment Business and the non-disclosure of competitively sensitive information;
- (d) review and assess potential purchasers as well as the progress of the divestiture process and verify that, dependent on the stage of the divestiture process:
- (i) potential purchasers receive sufficient and correct information relating to the Divestment Business and the Personnel in particular by reviewing, if available, the data room documentation, the information memorandum and the due diligence process, and
 - (ii) potential purchasers are granted reasonable access to the Personnel;
- (e) act as a contact point for any requests by third parties, in particular potential purchasers, in relation to the Commitments;
- (f) provide to the Commission, sending the Notifying Party a non-confidential copy at the same time, a written report within 15 days after the end of every month that shall cover the operation and management of the Divestment Business as well as the splitting of assets and the allocation of Personnel so that the Commission can assess whether the business is held in a manner consistent with the Commitments and the progress of the divestiture process as well as potential purchasers;

- (g) promptly report in writing to the Commission, sending the Notifying Party a non-confidential copy at the same time, if it concludes on reasonable grounds that the Parties are failing to comply with these Commitments;
 - (h) within one week after receipt of the documented proposal referred to in paragraph 19 of these Commitments, submit to the Commission, sending the Notifying Party a non-confidential copy at the same time, a reasoned opinion as to the suitability and independence of the proposed purchaser and the viability of the Divestment Business after the Sale and as to whether the Divestment Business is sold in a manner consistent with the conditions and obligations attached to the Decision, in particular, if relevant, whether the Sale of the Divestment Business without one or more Assets or not all of the Personnel affects the viability of the Divestment Business after the sale, taking account of the proposed purchaser;
 - (i) assume the other functions assigned to the Monitoring Trustee under the conditions and obligations attached to the Decision.
30. If the Monitoring and Divestiture Trustee are not the same legal persons, the Monitoring Trustee and the Divestiture Trustee shall cooperate closely with each other during and for the purpose of the preparation of the Trustee Divestiture Period in order to facilitate each other's tasks.

Duties and obligations of the Divestiture Trustee

31. Within the Trustee Divestiture Period, the Divestiture Trustee shall sell at no minimum price the Divestment Business to a purchaser, provided that the Commission has approved both the purchaser and the final binding sale and purchase agreement (and ancillary agreements) as in line with the Commission's Decision and the Commitments in accordance with paragraphs 18 and 19 of these Commitments. The Divestiture Trustee shall include in the sale and purchase agreement (as well as in any ancillary agreements) such terms and conditions as it considers appropriate for an expedient sale in the Trustee Divestiture Period. In particular, the Divestiture Trustee may include in the sale and purchase agreement such customary representations and warranties and indemnities as are reasonably required to effect the sale. The Divestiture Trustee shall protect the legitimate financial interests of the Notifying Party, subject to the Notifying Party's unconditional obligation to divest at no minimum price in the Trustee Divestiture Period.
32. In the Trustee Divestiture Period (or otherwise at the Commission's request), the Divestiture Trustee shall provide the Commission with a comprehensive monthly report written in English on the progress of the divestiture process. Such reports shall be submitted within 15 days after the end of every month with a simultaneous copy to the Monitoring Trustee and a non-confidential copy to the Notifying Party.

Duties and obligations of the Parties

33. The Parties shall provide and shall cause its advisors to provide the Trustee with all such co-operation, assistance and information as the Trustee may reasonably require to perform its tasks. The Trustee shall have full and complete access to any of Morpho Detection's or the Divestment Business' books, records,

- documents, management or other personnel, facilities, sites and technical information necessary for fulfilling its duties under the Commitments and the Parties and the Divestment Business shall provide the Trustee upon request with copies of any document. The Parties and the Divestment Business shall make available to the Trustee one or more offices on their premises and shall be available for meetings in order to provide the Trustee with all information necessary for the performance of its tasks.
34. The Parties shall provide the Monitoring Trustee with all managerial and administrative support that it may reasonably request on behalf of the management of the Divestment Business. This shall include all administrative support functions relating to the Divestment Business which are currently carried out at headquarters level. The Parties shall provide and shall cause its advisors to provide the Monitoring Trustee, on request, with the information submitted to potential purchasers, in particular give the Monitoring Trustee access to the data room documentation and all other information granted to potential purchasers in the due diligence procedure. The Notifying Party shall inform the Monitoring Trustee on possible purchasers, submit lists of potential purchasers at each stage of the selection process, including the offers made by potential purchasers at those stages, and keep the Monitoring Trustee informed of all developments in the divestiture process.
 35. The Parties shall grant or procure Affiliated Undertakings to grant comprehensive powers of attorney, duly executed, to the Divestiture Trustee to effect the sale (including ancillary agreements), the Closing and all actions and declarations which the Divestiture Trustee considers necessary or appropriate to achieve the sale and the Closing, including the appointment of advisors to assist with the sale process. Upon request of the Divestiture Trustee, the Parties shall cause the documents required for effecting the sale and the Closing to be duly executed.
 36. The Notifying Party shall indemnify the Trustee and its employees and agents (each an “Indemnified Party”) and hold each Indemnified Party harmless against, and hereby agrees that an Indemnified Party shall have no liability to the Notifying Party for, any liabilities arising out of the performance of the Trustee’s duties under the Commitments, except to the extent that such liabilities result from the wilful default, recklessness, gross negligence or bad faith of the Trustee, its employees, agents or advisors.
 37. At the expense of the Notifying Party, the Trustee may appoint advisors (in particular for corporate finance or legal advice), subject to the Notifying Party’s approval (this approval not to be unreasonably withheld or delayed) if the Trustee considers the appointment of such advisors necessary or appropriate for the performance of its duties and obligations under the Mandate, provided that any fees and other expenses incurred by the Trustee are reasonable. Should the Notifying Party refuse to approve the advisors proposed by the Trustee the Commission may approve the appointment of such advisors instead, after having heard the Notifying Party. Only the Trustee shall be entitled to issue instructions to the advisors. Paragraph 36 of these Commitments shall apply *mutatis mutandis*. In the Trustee Divestiture Period, the Divestiture Trustee may use advisors who served the Notifying Party during the Divestiture Period if the Divestiture Trustee considers this in the best interest of an expedient sale.

38. The Parties agree that the Commission may share Confidential Information proprietary to the Parties with the Trustee. The Trustee shall not disclose such information and the principles contained in Article 17 (1) and (2) of the Merger Regulation apply mutatis mutandis.
39. The Notifying Party agrees that the contact details of the Monitoring Trustee are published on the website of the Commission's Directorate-General for Competition and they shall inform interested third parties, in particular any potential purchasers, of the identity and the tasks of the Monitoring Trustee.
40. For a period of 10 years from the Effective Date the Commission may request all information from the Notifying Party that is reasonably necessary to monitor the effective implementation of these Commitments.

Replacement, discharge and reappointment of the Trustee

41. If the Trustee ceases to perform its functions under the Commitments or for any other good cause, including the exposure of the Trustee to a Conflict of Interest:
 - (a) the Commission may, after hearing the Trustee and the Notifying Party, require the Notifying Party to replace the Trustee; or
 - (b) the Notifying Party may, with the prior approval of the Commission, replace the Trustee.
42. If the Trustee is removed according to paragraph 41 of these Commitments, the Trustee may be required to continue in its function until a new Trustee is in place to whom the Trustee has effected a full hand over of all relevant information. The new Trustee shall be appointed in accordance with the procedure referred to in paragraphs 20 to 27 of these Commitments.
43. Unless removed according to paragraph 41 of these Commitments, the Trustee shall cease to act as Trustee only after the Commission has discharged it from its duties after all the Commitments with which the Trustee has been entrusted have been implemented. However, the Commission may at any time require the reappointment of the Monitoring Trustee if it subsequently appears that the relevant remedies might not have been fully and properly implemented.

Section F: The review clause

44. The Commission may extend the time periods foreseen in the Commitments in response to a request from the Notifying Party or, in appropriate cases, on its own initiative. Where the Notifying Party requests an extension of a time period, it shall submit a reasoned request to the Commission no later than one month before the expiry of that period, showing good cause. This request shall be accompanied by a report from the Monitoring Trustee, who shall, at the same time send a non-confidential copy of the report to the Notifying Party. Only in exceptional circumstances shall the Notifying Party be entitled to request an extension within the last month of any period.
45. The Commission may further, in response to a reasoned request from the Notifying Party showing good cause waive, modify or substitute, in exceptional circumstances, one or more of the undertakings in these Commitments. This request shall be accompanied by a report from the Monitoring Trustee, who shall, at the same time send a non-confidential copy of the report to the

Notifying Party. The request shall not have the effect of suspending the application of the undertaking and, in particular, of suspending the expiry of any time period in which the undertaking has to be complied with.

Section G. Entry into force

The Commitments shall take effect upon the date of adoption of the Decision.

(Signed)

duly authorised for and behalf of
Smiths Group plc

duly authorised for and behalf of
Morpho Detection, LLC

duly authorised for and behalf of
Morpho Detection International, LLC

9. SCHEDULE

Legal and functional structure of the Divestment Business

1. The Divestment Business as operated to date has the following legal and functional structure.
2. The constituent parts of the Divestment Business are owned directly or indirectly by Morpho Detection, LLC, with registered office at [redacted] or Morpho Detection International, LLC, with registered office at [redacted].
3. The Divestment Business consists of the manufacture, sale and repair of Morpho Detection's range of Trace products as listed in Annex A.
4. The Divestment Business will be carved out by way of a pre-closing reorganisation and comprise the essential functions of the Trace Products business, including relevant assets, licences, personnel, etc. The Parties will use reasonable efforts to transfer relevant material contracts with third parties relating to the Trace Products pre-Closing to the corporate entities to be transferred to the Purchaser or (where this is not possible) to facilitate the Purchaser to recreate these relationships by introducing the Purchaser to the relevant third parties.

Composition of the Divestment Business

5. The Divestment Business consists of Morpho Detection's global Trace business and comprises all of the elements of Morpho Detection's existing business required for the development, manufacture, sale and provision of aftermarket services for its Trace product range as set out in Annex A, (the **Trace Products**).
6. More particularly, the Divestment Business includes, subject to paragraph 8:
 - (a) the assignment of the lease (or, alternatively, the sublease) of the following facilities currently used by Morpho Detection for its global Trace business:
 - (i) R&D and manufacturing facility located at Andover, Massachusetts;
 - (ii) R&D facility located at Santa Ana, California; and
 - (iii) sales/service depot located at Cambridge in the UK.
 - (b) in relation to the Trace Products:
 - (i) the transfer of Morpho Detection's intellectual property rights commercialised exclusively in relation to the Trace Products, as set out in Annex B;
 - (ii) the transfer of Morpho Detection's intellectual property rights used in relation to all parts and consumables for the Trace Products (and their predecessors), as set out in Annex B;
 - (iii) a non-exclusive, irrevocable, worldwide, royalty-free licence of Morpho Detection's intellectual property rights commercialised in relation to both the Trace Products and any products retained by Morpho Detection, as set out in Annex C; and

in each case as at the time when the legal title to the Divestment Business is transferred to the Purchaser;

- (c) the Trace Products repair depot equipment and a copy of related know-how;
- (d) the assignment of servicing contracts to the extent relating to the Trace Products;
- (e) inventories associated exclusively with the Trace Products and their predecessors;
- (f) production, quality, and manufacturing, engineering and R&D equipment used to develop, produce or support production of the Trace products;
- (g) all assets used by the development organisation to customise and develop new algorithms on the Trace Products;
- (h) transitional support arrangements for a period no longer than [redacted] months to ensure the operation of the Divestment Business until it has been established by, and migrated to, the Purchaser;
- (i) all personnel necessary to ensure the viability of the Divestment Business, including all key personnel, to produce, sell, support and develop the Trace Products activities, as set out in Annex E and Annex F;
- (j) the transfer of all agreements with Morpho Detection's current distributors to the extent relating to the sale and servicing of Trace Products, or (where this is not possible) to use reasonable efforts to introduce the Purchaser to these distributors;
- (k) the transfer of all agreements with Morpho Detection's current customers to the extent relating to the sale and servicing of Trace Products, or (where this is not possible) to use reasonable efforts to introduce the Purchaser to these customers;
- (l) the transfer of all agreements with Morpho Detection's current suppliers to the extent relating to Trace Products, or (where this is not possible) to use reasonable efforts to introduce the Purchaser to these suppliers;
- (m) the disclosure of customer records and full information about the terms of customer contracts with all of the Divestment Business's customers to the extent relating to the purchase of the Divestment Business;
- (n) Morpho Detection's intellectual property rights in its MS technology for use in Trace products and consumables and any existing prototype Trace products employing this technology, subject to a non-exclusive, irrevocable, worldwide, royalty-free licence back to Smiths and/or Morpho Detection and their affiliates in relation to products other than Trace products (see Annex D);
- (o) Morpho Detection's intellectual property rights in its pipeline [redacted], subject to a non-exclusive, irrevocable, worldwide, royalty-free licence back to Smiths and/or Morpho Detection and their affiliates in relation to products other than Morpho Detection's Trace Products (see Annex D); and

- (p) to the extent not already referred to above, Morpho Detection's intellectual property rights in its product pipeline relating wholly or primarily to Trace Products.
7. The Purchaser of the Divestment Business will be required to enter into transitional support arrangements with Smiths and/or Morpho Detection or their affiliates for a period no longer than [redacted] months to ensure the operation of the non-Trace business retained by Morpho Detection until it has been established by, and migrated to, Smiths and/or Morpho Detection or their affiliates.
8. The Divestment Business does not include any right, title, or interest in or to:
- (a) Morpho Detection's non-Trace Products businesses, including any intellectual property rights which are exclusively commercialised in relation to non-Trace Products;
 - (b) Morpho Detection's trade marks (and related rights), nor any right to use the word "Morpho" or "Morpho Detection";²
 - (c) any technologies or intellectual property rights not used in Trace Products;
 - (d) any rights to technologies which relate to networking functionality for non-Trace products;
 - (e) any rights in Morpho Detection's subcontract with Leidos, for the servicing of checkpoint equipment deployed by the US Transportation Security Administration, including Morpho Detection's Trace equipment; the Purchaser will be required to enter an agreement with Smiths/Morpho Detection or their affiliates to provide consumables and parts, and any necessary services, for the Trace Products covered by the subcontract with Leidos;
 - (f) the personnel required in relation to (e) above; and
 - (g) Morpho Detection's webstore.
9. The legal and functional structure of the Divestment Business as operated to date is described in the Schedule. The Divestment Business, described in more detail in the Schedule, includes all assets and staff that contribute to the current operation or are necessary to ensure the viability and competitiveness of the Divestment Business, in particular:
- (a) all tangible and intangible assets (including intellectual property rights);
 - (b) all licences, permits and authorisations issued by any governmental organisation for the benefit of the Divestment Business;
 - (c) all contracts, leases, commitments and customer orders of the Divestment Business; all customer, credit and other records of the Divestment Business; and
 - (d) the Personnel.

² [Redacted].

10. If there is any asset or personnel which is not be covered by paragraph 6 of this Schedule but which is both used (exclusively or not) in the Divestment Business and necessary for the continued viability and competitiveness of the Divestment Business, that asset or adequate substitute will be offered to potential purchasers.

Annex A

List of Trace Products included in the Divestment Business

1. Desktop products:
 - (a) Itemiser DX;
 - (b) Itemiser 4DX;
 - (c) Itemiser 3; and
 - (d) Itemiser 3 Enhanced
2. Handheld products:
 - (a) MobileTrace; and
 - (b) Hardened MobileTrace
3. Portal:
 - (a) EntryScan 4

Annex B

Intellectual property rights commercialised exclusively in relation to the Trace Products which will be transferred to the Purchaser

Patents

AppNumber	PubNumber	IssDate	PatNumber	ApplicationStatus
15/064203				Pending
14/974137				Pending
15/087251				Pending
11/402190	2007-0169570	9/29/2009	7594447	Granted
10/774003	2005-0019220	11/25/2008	7456393	Granted
10/929915	2006-0042407	5/23/2006	7047829	Granted
14/530081	2016-0123942			Published
12/082535	2011-0181288	12/24/2013	8614582	Granted
10/886952	2005-0057354	8/7/2007	7253727	Granted
1516609.3	2536076			Published
2904479	2904479			Published
14/492196	2016-0282321			Published
15/082108				Pending
15/064264				Pending
11/554160	2008-0098794	9/29/2009	7594422	Granted
11/967539	2009-0166531	2/16/2010	7663099	Granted
8172075.7	2075578	5/18/2016	2075578	Granted
2688352	2688352	6/16/2015	2688352	Granted
12/082638	2009-0223310	5/29/2012	8186234	Granted
13/860360	2013-0239704	10/14/2014	8857278	Granted
11/639579	2013-0091963	5/7/2013	8434375	Granted

2620405	2620405	7/8/2014	2620405	Granted
11/202455	2007-0034024	11/27/2007	7299710	Granted
11/426442	2008-0067341	6/2/2009	7541577	Granted
11/075199	2006-0196249	7/22/2008	7401498	Granted
10/936112	2006-0049346	11/28/2006	7141786	Granted
10/033874	2002-0078767	3/23/2004	6708572	Granted
11/687063	2007-0220953	5/25/2010	7721588	Granted
2644937	2644937	11/24/2015	2644937	Granted
10/640551	2004-0131503	3/4/2008	7338638	Granted
10/774004		1/11/2005	6840122	Granted
12/650195	2011-0154918	3/26/2013	8402842	Granted

Trademarks

CaseNumber	TrademarkName	Country Name	TrademarkStatus	AppNumber	FileDate	RegNumber	RegDate	Client Ref	Code
30017-00321	ENTRYS CAN	European Union (Community)	Registered	2610210	3/5/2002	2610210	3/30/2004	IM0031EM	CBRNE-And
30017-00322	ENTRYS CAN	United States of America	Registered	77/607,642	11/5/2008	3,682,394	9/15/2009	IM0031US	CBRNE-And
30017-00332	ITEMISER	European Union (Community)	Registered	1932458	10/23/2000	1932458	2/6/2002	IM0032EM	CBRNE-And
30017-00628	ENTRYS CAN	United Kingdom	Registered	2249485	10/20/2000	2249485	7/11/2003	IM0031GB	CBRNE-And
30017-00722	VAPORT RACER	United States of America	Registered	85/331,603	5/26/2011	4,255,467	12/4/2012	RS0004US	CBRNE-And
30017-00333	ITEMISER	United States of America	Registered	77/076,890	1/5/2007	3,458,778	7/1/2008	IM0032US	CBRNE-And
30017-00334	STREETLAB	United States of America	Registered	78/018,492	7/26/2000	2,592,987	7/9/2002	RS0003US	CBRNE-And
30017-00602	MOBILETRACE	United States of America	Registered	78/954,471	8/17/2006	3,358,058	12/18/2007	IM0033US	CBRNE-And
30017-00818	VAPORT RACER	Canada	Registered	1553963	11/28/2011	865735	11/22/2013	RS0004CA	CBRNE-And
30017-00819	VAPORT RACER	Int'l Registration - Madrid Protocol Only	Registered	1102934	11/28/2011	1102934	11/28/2011	RS0004WP	CBRNE-And
30017-00820	VAPORT RACER	China (People's Republic)	Registered	1102934	11/28/2011	1102934	11/28/2011	RS0004CN	CBRNE-And
30017-00821	VAPORT RACER	European Union (Community)	Registered	1102934	11/28/2011	1102934	11/28/2011	RS0004EM	CBRNE-And

Annex C

Morpho Detection's intellectual property rights licensed to the Purchaser

AppNumber	PubNumber	IssDate	PatNumber	ApplicationStatus
2538709	2538709	2/26/2013	2538709	Granted
10/672958	2004-0119009	9/19/2006	7109476	Granted
2924580	2924580			Published
14/666856	2016-0282304			Published
15/135679				Pending
2790430	2790430			Published
13/248501	2013-0082172	5/13/2014	8723111	Granted
1944520.4	1297554			Published
2411532	2411532	4/13/2010	2411532	Granted
09/596307		10/7/2003	6630664	Granted
2548177	2548177	9/30/2014	2548177	Granted
11/138594	2006-0284103	3/27/2007	7196325	Granted
09/653038		12/11/2001	6329653	Granted
2362449	2362449	10/28/2008	2362449	Granted
09/247646		4/3/2001	6211516	Granted

Annex D

Morpho Detection's intellectual property rights transferred to the Purchaser and licenced back to Smiths / Morpho Detection by the Purchaser

AppNumber	PubNumber	IssDate	PatNumber	ApplicationStatus
15003073.2	3015858			Published
2910780	2910780			Published
14004012.2	2884254			Published
12/244381	2009-0038370	12/28/2010	7856898	Granted
11/299915	2007-0131017	11/11/2008	7448248	Granted
2738053	2738053			Published
13/091365	2011-0278447	10/16/2012	8288735	Granted
09/386577		12/4/2001	6326615	Granted
15003417.1	3032570			Published
2913931	2913931			Published
14/186820	2015-0007447	2/10/2015	8952327	Granted
13000897.2	2637013			Published
2.0131E+11	103308590			Published
2807894	2807894			Published
13/415359	2013-0234013	4/1/2014	8686355	Granted
11/966179	2009-0166521	2/1/2011	7880137	Granted
10/103601	2002-0134933	7/20/2004	6765198	Granted
14000785.7	2778650			Published
2844222	2844222			Published
13/843320	2015-0268147	5/31/2016	9354153	Granted
2479875	2479875	2/22/2011	2479875	Granted
10/101670	2003-0173514	5/18/2004	6737642	Granted

09/910197	2002-0017605	2/10/2004	6690005	Granted
11/875536	2008-0093549	5/5/2009	7528367	Granted
15003658	3040717			Published
201511015498.X	105738461			Published
2915785	2915785			Published
14/586503		9/29/2015	9147565	Granted
10/628753	2004-0056191	12/14/2004	6831273	Granted
2153371	2153371	3/23/1999	2153371	Granted
14000925.9	2778669			Published
2845959	2845959			Published
14/194279	2014-0264002	10/21/2014	8866073	Granted
09/411455		11/4/2003	6642513	Granted
2285153	2285153	5/11/2010	2285153	Granted
10/657223	2004-0094707	11/9/2004	6815670	Granted
99307838.5	992782	8/31/2005	992782	Granted
90/013012		10/30/2014	6815670Cl	Granted
1219147.4	GB2496286			Published
95304941.8	692712	10/2/2002	692712	Granted
12/276118	2010-0126284	4/24/2012	8161830	Granted
9829865.6	2368102			Published
14/133921	2015-0177214	11/1/2016	9482655	Granted

Annex E

Overview of the personnel that will be included in the Divestment Business

The Divestment Business includes in the region of 170-180 personnel based in Andover (Massachusetts, USA), Santa Ana (California, U.S.A), Cambridge (U.K.) and several other remote locations worldwide.

Annex F

Overview of the key personnel that will be included in the Divestment Business

Seven appropriate roles covering product management, engineering, program management, systems engineering and sales/account management.