

Thermo/GVI Remedies working paper

Introduction

1. This working paper considers the possible remedies to the substantial lessening of competition (SLC), and its adverse effects, which the Competition Commission (CC) identified in its provisional findings as expected to result from the completed acquisition by Thermo Electron Manufacturing Limited, part of Thermo Electron Corporation (Thermo), of GV Instruments Limited (GVI). The paper has been prepared following our publication of the Notice of possible remedies on 22 March 2007 (the Notice) and our consideration of the evidence we have received in response. A summary of the evidence from Thermo has been placed on the CC website and a summary of evidence from third parties will be placed on the CC website.

Remedy questions

2. If the CC expects an SLC to result from a merger, it must answer the following questions¹:
 - (a) Should the CC itself take action to remedy, mitigate or prevent the SLC or any adverse effects resulting or expected to result from the SLC?
 - (b) Should the CC recommend the taking of action by others, eg government, regulators and public authorities, for the purpose of remedying, mitigating or preventing the SLC or adverse effects resulting or expected to result from the SLC?
 - (c) In either of the above cases, what action should be taken? The CC should state the action that should be taken and what it is designed to address.

¹Section 35(3) of the Enterprise Act 2002.

3. In considering these questions, the Enterprise Act (the Act) requires the CC: ‘ ... in particular [to] have regard to the need to achieve as comprehensive a solution as is reasonable and practicable to the substantial lessening of competition and any adverse effects resulting from it.’²
4. The CC’s guidance³ indicates:
- The remedial action that the CC will decide should be taken will always depend on the facts and circumstances of the case. When deciding what an appropriate remedy is, the CC will consider the effectiveness of different remedies and their associated costs and will have regard to the principle of proportionality.
 - The CC must have regard to the reasonableness of any remedy and this will include consideration of the costs of any action it may decide is appropriate.
 - The CC will aim to ensure that no remedy is disproportionate in relation to the SLC or other adverse effect.
 - If the CC is choosing between two remedies which it considers would be equally effective, it will choose the remedy that imposes the least cost or that is least restrictive.

Relevant customer benefits

5. The Act states that the CC may, in deciding the question of remedies: ‘in particular have regard to the effects of any action on any relevant customer benefits in relation to the creation of the relevant merger situation concerned.’⁴

²Section 35(4) of the Enterprise Act 2002.

³*Merger References: Competition Commission Guidelines, CC2*, June 2003, paragraphs 4.8 and 4.9.

⁴Section 35(5) and 36(6) of the Enterprise Act 2002, quoted in *Merger References: Competition Commission Guidelines, CC2*, June 2003, paragraph 4.34.

6. The CC's guidance indicates that if the CC is satisfied that relevant customer benefits (RCBs) would result from a merger that also led to an SLC, it will consider whether to modify the remedy that it would otherwise put in place.⁵ In other words, the CC will first identify which remedy it considers appropriate and, second, decide whether, in view of any RCBs, it wishes to modify that remedy. RCBs are discussed further in paragraphs 56 to 61.

Nature of the SLC

7. We have provisionally concluded that the acquisition of GVI by Thermo constitutes a relevant merger situation and that it may be expected to result in an SLC in the markets for Gas Isotope Ratio mass spectrometers (Gas IRMS) and Thermal Ionization mass spectrometers (TIMS) in the UK.

Remedy options

8. In the Notice we invited views on structural remedies. We said that, while we did not consider behavioural remedies were likely to be effective in addressing the SLC and its resulting adverse effects, we remained willing to consider any practical alternative remedies to divestiture that the main party or others believe would address the SLC effectively.
9. We first consider structural remedies and then turn to an alternative remedy proposed by a party.

Structural remedies

10. The Notice invited views on whether divestiture would be effective in addressing the SLC and the scope of the divestiture package. We were of the view that divestiture of GVI as a whole would address the SLC, but invited views as to whether an

⁵*Merger References: Competition Commission Guidelines, CC2, June 2003, paragraph 4.45.*

appropriate divestiture package could be assembled from the parts of GVI necessary for the supply of Gas IRMS and TIMS, which would be equally effective. We also sought views as to how the possible risks of such an approach, for example in separating the necessary assets, could be successfully addressed. We now consider these two options:

- (a) divestiture of the whole of GVI; and
- (b) divestiture of those parts of GVI which are necessary to supply Gas IRMS and TIMS instruments.

Divestiture of GVI as a whole

Thermo's view

11. Thermo told us that while the divestiture of GVI as a whole may be feasible, it would be wholly disproportionate to the SLCs identified, bearing in mind the size of the relevant markets and in particular the low sales volumes and values in the UK. In support of this argument, Thermo cited the CC's guidance which states that 'in exceptional circumstances the CC may conclude that no action is appropriate even where an SLC has been identified'. The guidance gives an example of such circumstances, where 'the costs of any practicable remedy seem disproportionate in the light of the size of the relevant market.'⁶ We consider this argument in paragraphs 19 and 20.

Third-party views

12. Nu Instruments (Nu) told us that, had it been approached by GVI's management at the time of the acquisition by Thermo, it would have considered bidding for the business and believed it could have readily absorbed both GVI's Gas IRMS and TIMS products into its portfolio. Such an acquisition at that time would have facilitated Nu's ambition of entering the Gas IRMS market. In these circumstances,

⁶Merger References: Competition Commission Guidelines, CC2, June 2003, paragraph 4.6.

Nu believed that it would have achieved 30 to 40 per cent of all new Gas IRMS sales, which would have represented a larger market share than that of GVI prior to its sale to Thermo. However, following Thermo's acquisition of GVI, Nu decided to develop its own Gas IRMS product, such that the acquisition of GVI would no longer significantly enhance its ability to enter this market.

13. Mass Spec Solutions told us that it doubted whether any instrument company would be interested in acquiring GVI as a whole. Mass Spec Solutions also did not believe that the business would be attractive to a financial purchaser.
14. [✂]
15. Analytech told us that it considered it unlikely that the divestiture of the whole of GVI would address the SLC effectively. Analytech said that, as GVI was failing prior to its acquisition by Thermo and had since been weakened further, it was no longer a viable takeover proposition.
16. Tesla Engineering (Tesla) told us that, in the event of a divestiture, it would be very interested in considering acquiring the GVI business as a whole. The decision would depend on the current state of the business. It said that it had been in touch with GVI senior management in 2006, with a view to making an acquisition bid, but, when it realized another prospective purchaser was bidding significantly in excess of its valuation, it withdrew. Tesla's ability to complete a transaction and effectively operate GVI is considered in paragraphs 29 and 31.
17. Glenrose also told us that it would consider acquiring the GVI business as a whole, if it were for sale. Glenrose emphasized that the business may have changed substantially since it made successive bids for the company in 2005/06, and that

further due diligence would be needed, but said that it would be very interested to review it. Glenrose's ability to complete a transaction and effectively operate GVI is considered in paragraphs 30 and 31.

Our reasoning

18. We first consider Thermo's arguments regarding proportionality and then consider the effectiveness and risks of a full divestiture remedy.

Proportionality

19. The CC's guidance⁷ outlines the way in which we consider proportionality when reviewing alternative remedies:
 - the CC aims to ensure that no remedy is disproportionate in relation to the SLC or other adverse effect (paragraph 4.9 of the guidance);
 - if the CC is choosing between two remedies which it considers would be equally effective, the CC will choose the remedy that imposes the least cost or that is least restrictive (paragraph 4.9);
 - the CC will generally include in its consideration of costs the costs of implementing a remedy but, for completed mergers, the parties' costs arising from a divestment are regarded as avoidable (as the parties could seek pre-clearance from the Office of Fair Trading (OFT)) and therefore the CC will not, in the absence of exceptional circumstances, accept that the cost of divestment should be considered in the setting of remedies (paragraph 4.10); and
 - similarly, the social costs of possible staff redundancies will not be considered, or the cost of foregone economies (which will rather be considered under relevant customer benefits) (paragraph 4.11).

⁷Merger References: Competition Commission Guidelines, CC2, June 2003, page 41.

20. The fact that the relevant UK markets are small does not detract from the need to remedy an SLC once the OFT has determined that the market is of sufficient importance to justify making a reference. We also note that, in considering the costs of a remedy in relation to proportionality, we will not, in accordance with our guidance, take into account the costs of divestment since these are, in principle, avoidable, as the parties could seek pre-clearance from the OFT and could make their merger proposals conditional on competition authorities' approval. However, it may be possible to structure a partial divestment which still addresses the SLC, but is less costly to the parties and less restrictive. If this is the case, requiring full divestment may not be proportionate. We consider the effectiveness of partial divestment as a remedy in paragraphs 36 to 44.

A full divestiture remedy

21. A divestiture of GVI as a whole would reverse the merger. It would remove the product overlaps and therefore, if successfully implemented, would represent a comprehensive, effective remedy to the SLC we have identified.

22. Given that the full divestiture of GVI would effectively address the SLC, we next consider whether, in practice, it is likely to be successfully implemented. The CC's guidance⁸ distinguishes three categories of risk associated with divestiture remedies: composition risks, purchaser risks, and asset risks, which we now consider in turn.

- *Composition risks*

23. Composition risks are risks that the scope of the divestiture package may not be appropriately configured to attract a suitable purchaser, or may not allow a purchaser

⁸Application of divestiture remedies in merger inquiries, Competition Commission Guidelines, CC8, December 2004, paragraph 2.4.

to operate effectively and viably in the market.⁹ The reduction of composition risk is one reason why generally we prefer the divestiture of an existing stand-alone business to the divestiture of part of a business.

24. The measures put in place by the OFT on 25 October 2006 required Thermo to hold separate and maintain the GVI business. However, these measures took effect several months after the acquisition had been completed. In the intervening period, many GVI staff had left, including its directors and a large proportion of its R&D staff, and its sales network was partially dismantled. Acceptance of the CC's interim undertakings, on 27 February 2007, has, to an extent, mitigated Thermo's planned integration of its businesses: GVI now has its own dedicated General Manager, it has re-engaged some former GVI sales agents and re-established relationships with its suppliers (enabling the fulfilment of orders placed with GVI prior to the acquisition), and the flow of confidential information between GVI and Thermo has been restricted. We therefore consider that GVI is close to being a stand-alone business. [REDACTED].
25. A further potential problem is that GVI uses software and some technical designs licensed from Waters Corporation. As such, any new owner of GVI that does not have its own appropriate software or relevant technical designs would either need to negotiate a licence with Waters or quickly produce its own 'work-around' solution. [REDACTED] Waters no longer operates in the IRMS sector, and we believe it would have a commercial incentive to generate revenue by negotiating a licence.
26. Overall, we consider that a divestiture package comprising GVI as a whole would provide a purchaser with sufficient assets to enable it to compete effectively in the market.

⁹Application of divestiture remedies in merger inquiries, Competition Commission Guidelines, CC8, December 2004, Part 2.

- *Purchaser risks*

27. Purchaser risks are risks that a suitable purchaser may not be available or that the divesting party will dispose of the package to a weak or otherwise inappropriate purchaser.
28. Our guidance provides criteria for assessing the suitability of prospective purchasers. These are stated to include their independence, their capability and the absence of competitive concerns. We have received indications from two companies that they would be interested in acquiring GVI as a whole and, in our view, both these companies may represent suitable and credible purchasers.
29. Tesla is a manufacturer of components used in scientific and medical instruments. In 2006, it had a turnover of £22 million and profits in excess of £5 million. Its Radway division was a supplier to GVI and, through this relationship, it gained a good understanding of the GVI business. Tesla's chairman was a director of Analytical Precision Ltd, which was absorbed into GVI at the time of the MBO in 2003, and, prior to that, was an executive director of VG Instruments until its acquisition by Fisons.
30. Glenrose is an investment vehicle owned by several high net worth ex-Thermo executives, who are now largely retired. The company currently has two subsidiaries, the largest being Eberline Services, which has revenues of approximately \$30 million. The strategic intent of Glenrose is to acquire a portfolio of analytical instrument companies and to add value through the expertise of the directors and possibly some portfolio synergy.
31. In our view, both of these companies are likely to have the resources to be able to quickly operate GVI as an effective stand-alone business.

32. The risk that Thermo might seek to divest GVI to a weak or otherwise inappropriate purchaser is mitigated by the requirement that the CC must approve the purchaser before Thermo can complete a transaction.

- *Asset risks*

33. Asset risks are risks that the competitive capability of a divestiture package will deteriorate prior to completion of the divestment, for example through the transfer of confidential information, or the loss of customers or key members of staff.

34. We identified these risks at an early stage of the inquiry and put in place interim measures, as described above. However, in the event of a divestiture remedy, we consider that it may be necessary to require Thermo to appoint a Monitoring Trustee, and possibly a Hold Separate Manager, with no links to Thermo, in order to reduce asset risk.

Our conclusion

35. We consider that the divestiture of GVI as a whole would effectively address the SLC. We acknowledge that there may be purchaser and composition risks associated with this remedy, but we consider that a suitable purchaser is likely to be found who will operate the business as an effective competitor to Thermo.

Partial divestiture of GVI

36. In the Notice, we invited views as to whether an appropriate divestiture package could be assembled from the parts of GVI necessary to supply the Gas IRMS and TIMS markets.

Thermo's view

37. Thermo told us that GVI had never been managed on a line-by-line basis. Rather, it had a central administration and accounting function, and many development staff worked on multiple products. Thermo submitted that dividing the GVI business according to its product lines is not therefore practicable [✂]. We consider this argument in paragraph 39.

Third-party views

38. Mass Spec Solutions told us that it would be interested in acquiring the staff and assets associated with GVI's Gas IRMS product line. Analytech told us that it would be interested in acquiring the drawings, intellectual property and key staff associated with GVI's TIMS product line.

Our reasoning

- *Composition risks*

39. We acknowledge that identifying and separating the GVI resources necessary for the effective supply of its Gas IRMS and TIMS products would be difficult, and that composition risks would exist. However, from our discussions with the potential purchasers and consideration of the particular assets which would be critical, we believe that it should be possible to identify and isolate the specialist engineering staff and product managers associated with each of the products, together with the relevant product designs, customer base and order log, and so assemble a package that would enable a purchaser to compete effectively in the Gas IRMS and TIMS markets.

- *Purchaser risks*

40. In considering potential purchasers of a partial divestiture package, we are mindful of the risk that a purchaser of the assets associated with either product line may

currently supply the same type of instrument and may, at some point in the near future, cease supplying the GVI product in favour of its own.

41. One company has indicated its interest in acquiring GVI's Gas IRMS assets: Mass Spec Solutions. Mass Spec Solutions has developed its own Gas IRMS instrument, with a range of peripherals, and has its own control software package, which is also capable of operating GVI's IsoPrime product. Mass Spec Solutions' management unsuccessfully bid for the Micromass business when it was offered for sale in 2003, raising approximately £5 million at the time, and has many cumulative years of experience in the Gas IRMS market. We therefore consider that Mass Spec Solutions may be a suitable purchaser of GVI's Gas IRMS assets.

42. Analytech has indicated its interest in acquiring GVI's TIMS assets. Analytech provides maintenance and upgrade services for GVI's TIMS instrument users, and has developed software capable of operating GVI's Isoprobe T instrument. Analytech's technical director is a former GVI employee. Analytech has a detailed understanding of the TIMS technology and knowledge of GVI's TIMS customer base. We therefore consider that Analytech may be a suitable purchaser of GVI's TIMS assets.

- *Asset risks*

43. The asset risks associated with partial divestiture of GVI's assets are the same as those associated with the divestiture of GVI as a whole (see paragraphs 33 and 34).

Our conclusion

44. We consider that the partial divestiture of GVI's Gas IRMS and TIMS assets would effectively address the SLC. However, we recognize that there may be greater composition risks associated with this remedy than with the alternative remedy of the

divestiture of GVI as a whole. We note also that Thermo has told us that this remedy would, in practical terms, require significant investment in time and money to complete a necessary restructuring within GVI's business. We consider that suitable purchasers may be found who will utilize GVI's Gas IRMS and TIMS assets as effective competitors to Thermo but also acknowledge that this remedy would be subject to purchaser risks. We therefore consider that full divestiture is more likely to represent an effective remedy than partial divestiture.

Behavioural remedies

A licensing remedy

45. One party suggested licensing as an alternative behavioural remedy which it believes would be effective in addressing the SLCs.

46. The party told us that, in order to be able to offer a Gas IRMS instrument capable of meeting the full range of applications demanded by customers, a supplier needs to be able to offer an interface with the large number of peripheral inlet and preparation systems available from third parties. While the majority of Gas IRMS instruments are sold with an elemental analyser and a gas chromatograph, there are many other peripheral devices, each of which will require an interface to enable it to connect to the basic Gas IRMS instrument.

47. In order for a Gas IRMS instrument to connect to a peripheral device, it needs a hardware connection and a software solution to control the interface, ensuring that there is no distortion in the sample preparation. GVI owns both the hardware and software technologies for interfacing to its Gas IRMS instrument.

48. The party suggested that Thermo be required to license to its competitors the designs of GVI's interface hardware and GVI's proprietary interface control software.

If such a licence was made available on a non-discriminatory basis to any interested party, it might ensure that any company with its own Gas IRMS instrument could immediately offer a connection to a full range of third party peripherals, and hence offer a wider suite of applications. The party further suggested that the licence be made available to any competitor so that it might have a wider impact than a simple divestiture of the underlying intellectual property (IP) rights.

49. To remedy the SLC in the TIMS market, the same party suggested that Thermo be required to licence the designs and drawings of GVI's TIMS instrument.

Views of third parties

50. We put the suggested licensing remedies to third parties, and received the following comments.
51. Nu Instruments told us that the hardware and software which enables a Gas IRMS instrument to interface with peripherals supplied by other manufacturers can 'be easily developed by anyone who has any technical ability or knowledge in the field' and dismissed the suggestion that licensing this technology from GVI would enable more effective competition. Nu also rejected the effectiveness of any suggested license of GVI's TIMS design rights.
52. In contrast, Analytech considered that licensing TIMS technology could effectively address the SLC. However, given that Analytech has already developed its own software for GVI's TIMS instrument, it considered that owning the full IP associated with the instrument would give it more of an incentive to develop it further.

Our reasoning

53. Our guidance states that the CC will seek to choose the remedial action that will restore the competition that has been, or is expected to be, lessened as a result of the merger.¹⁰
54. We consider that a licensing remedy in respect of Gas IRMS would not be effective in addressing the SLC as it will not restore the competition lessened by the merger. The majority of small competitors in the Gas IRMS market are already capable of serving the majority of potential customers, who require either an elemental analyzer or a gas chromatograph, but do so in low volumes. Further, we have been told that designing the necessary hardware and developing the necessary software for most other peripherals is not particularly complex.
55. Similarly, we do not consider that a licensing remedy would effectively address the SLC in the TIMS market. A licensing agreement would offer licensees less of an incentive to continue developing the technology than if they owned the IP themselves, and hence risks freezing technological development in the market. In addition, granting IP rights to several suppliers in such a small market might actually inhibit expansion by any of them.

Relevant customer benefits

56. In the Notice we invited views on possible RCBs resulting from the merger.
57. RCBs are defined by S41(5) of the Act as lower prices, greater choice, higher quality and higher levels of innovation.¹¹ Relevant customers may be customers at any stage in the supply chain and the benefits do not have to arise in the same market in

¹⁰*Merger References: Competition Commission Guidelines, CC2, June 2003, paragraph 4.23.*

¹¹*See also Merger References: Competition Commission Guidelines, CC2, June 2003, paragraph 4.37.*

which the SLC is expected.¹² In order to be considered an RCB, the benefit must result from the merger, be unlikely to accrue without the merger occurring, and must accrue within a reasonable timeframe.¹³ The test of an RCB is applied strictly.

58. If the CC finds that the merger had led to, or could be expected to result in, RCBs, it could take account of the effect of possible remedial action on the achievement of the RCBs. Where there is an SLC and an RCB, the CC may seek to reduce the detrimental effects of the merger, while preserving all or most of the customer benefits.
59. In deciding whether to modify a remedy in light of RCBs, the CC will consider factors including:¹⁴
- the size and nature of the expected benefits;
 - for how long the benefit is expected to be sustained; and
 - whether, as a result of the reduction of competitive pressure in the market, any immediate benefit to customers will be eroded in the future.
60. Thermo has so far highlighted the following customer benefits, which it says have arisen as a result of the merger:
- (a) honouring of the order backlog and preservation of customer deposits;
 - (b) payment of all outstanding liabilities to GVI's creditors, including key suppliers;
 - (c) repair and replacement of flawed instruments already delivered to customers;
 - (d) maintenance of an after-sales service and support for all GVI customers;
 - (e) maintenance of competition in the Noble Gas market; and
 - (f) completion of the development of a new Noble Gas instrument.

¹²*Merger References: Competition Commission Guidelines, CC2, June 2003, paragraph 4.39.*

¹³*Merger References: Competition Commission Guidelines, CC2, June 2003, paragraph 4.38.*

¹⁴*Merger References: Competition Commission Guidelines, CC2, June 2003, paragraph 4.45.*

61. Of the customer benefits identified by Thermo, it is unclear which, if any, will be affected by a divestiture remedy. All of Thermo's completed actions, taken since the date of the merger, including the payment of creditors and addressing the order backlog, are now in the past and do not appear at risk of being affected by any remedy. In addition, payment of GVI's creditors does not fall within any of the permitted categories, because creditors are not customers.

Action to be taken by the CC

62. We have considered behavioural remedies, including the licensing proposals put to us, and we conclude that behavioural remedies would not be effective in addressing the SLC or the adverse effects identified.

63. We believe that divestiture of GVI as a whole would provide an effective remedy to the SLC, being the remedy which would most closely represent the competitive situation in the market prior to the merger. We consider that this remedy would present fewer composition risks than partial divestiture (as set out in paragraph 44). We do not consider that the cost of this remedy would be disproportionate (as set out in paragraph 20). We have considered whether the presence of any RCBs would cause us to modify our remedy (as set out in paragraphs 56 to 61) and we do not believe at present that there is any reason to do so. We therefore conclude that full divestiture of GVI is likely to be the remedy which will be most effective in addressing the SLC and the adverse effects resulting from the SLC, while also being reasonable and practicable.

64. However, we acknowledge that this remedy is not without purchaser and composition risks. We therefore recommend that the parties be permitted [✂] to divest the GVI business as a whole and, in the event that the business is not sold to a suitable

purchaser by the end of that period, we recommend that a divestiture trustee is appointed [✂].

65. The parties to a merger may have significant incentives to run down or neglect the business or assets of a divestiture package in order to reduce future competitive impact. In order to protect against asset risk, we consider it important to maintain the safeguards contained in our interim remedies, and we therefore will require the appointment of a Monitoring Trustee, and possibly also a Hold Separate Manager, to ensure this compliance, until completion of the divestiture.

Competition Commission

27 April 2007.