**Anticipated acquisition by Thermo Fisher Scientific Inc of Gatan**
**Initial Submission to CMA**

## 1. Summary

1.1 Thermo Fisher Scientific Inc ("**Thermo Fisher**") is proposing to acquire the electron microscope peripherals business of Roper Technologies Inc ("**Gatan**"). This merger involves a system supplier integrating a component supplier, and has a strongly procompetitive rationale.

1.2 Thermo Fisher is a manufacturer of transmission electron microscope systems ("**TEMs**") and sells TEM systems (including peripherals) to its customers. Gatan supplies Thermo Fisher with peripherals, including a high end filter (which incorporates a camera),[1] for use on Thermo Fisher's microscopes.

1.3 Thermo Fisher is a diversified, global manufacturing company whose main activity is supplying analytical instruments, scientific equipment, consumables, reagents, services and software for research, analysis, discovery and diagnostics. Thermo Fisher has a long history of supplying products to all purchasers (even where they compete in downstream markets) and also of purchasing products from upstream competitors. Gatan manufactures peripherals that are used in electron microscope systems. Gatan supplies its products primarily to electron microscope system manufacturers.

***The deal unlocks customer benefits and drives innovation***

1.4 Thermo Fisher is a pioneer in electron microscopy innovation. Historically, it has grown the market for TEMs by improving its microscopes and making them easier to use. This continues to be Thermo Fisher's strategy and, for example, its goal is to [REDACTED] life science sales of TEMs by 2023.[2] Because virtually all early adopter/[REDACTED] academic institutions have already purchased TEMs – and because TEMs and peripherals have relatively long life spans – Thermo Fisher believes it cannot grow its TEM business without expanding the number of its customers. There are, however, several constraints on expanding the number of TEM customers.

1.5 Firstly, because the TEM and peripheral are controlled by different software, the control of the instrument is complex and requires PhD level expertise to operate properly. There is, however, a limit on the number of people with PhDs, and most work at early adopter/[REDACTED] institutions. Thermo Fisher cannot sell more TEMs to other/[REDACTED] institutions and pharmaceutical companies unless it can simplify the operation of the instrument so that it can be used by [REDACTED] (which also allows the advanced operators to focus on other higher-value activities).

1.6 Secondly, because the instrument is expensive to operate, it is beyond the budget of many other/[REDACTED] institutions. Because of the inability to adequately control and

[1] For life science applications, the filter will incorporate a direct detection ("DD") camera. For material science applications, the filter will incorporate a general imaging ("GI") camera.

[2] Similarly, Thermo Fisher intends to grow TEM system use in other applications, including material science.

calibrate the TEM and peripherals, customers must construct special rooms that are expensive and often beyond the budget of other/[REDACTED] institutions. Similarly, because lack of integration causes the instrument to generate Terabytes of data that could be avoided, customers must also find expensive data storage solutions.

1.7 The deal will help remove these constraints, unlocking important benefits for customers and scientific research. [REDACTED]

1.8 The deal will therefore result in more and faster innovation than the Parties can achieve without the deal, making microscopes less expensive and easier to use and broadening the customer base. Ultimately, the deal will allow more customers in the UK and globally to access high-end electron microscopes to support their scientific research.

1.9 The merger will also enable Thermo Fisher to [REDACTED].

***The deal does not harm competition – no vertical effects***

1.10 There are three relevant manufacturers of TEMs worldwide – Thermo Fisher, JEOL and Hitachi.[3] Each has its own range of TEM peripherals, as well as sourcing some from Gatan and/or other third parties. The CMA at Phase 1 expressed concern that, post-merger, Thermo Fisher may have the ability and incentive to engage in input foreclosure, restricting the ability of JEOL and Hitachi to have continued access to Gatan peripherals or degrading the quality of service provided.

1.11 This is not the case. Instead, the deal rationale relies [REDACTED]. Thermo Fisher has negotiated long term supply agreements with both JEOL and Hitachi [REDACTED]. Since JEOL and Hitachi are the only TEM rivals who use Gatan peripherals and they are protected by contracts – there is no scope for input foreclosure.

1.12 If Thermo Fisher were to attempt to degrade access to Gatan products over time (i.e. partial foreclosure) or to reduce innovation in Gatan products, [REDACTED] could and would switch to another source of supply or develop their own peripherals (by themselves or in partnership with third parties). This would clearly harm Thermo Fisher's growth strategy.

***The deal does not harm competition – no horizontal effects***

1.13 The CMA at Phase I also expressed a concern about a potential horizontal overlap in relation to DD cameras, including around a loss of innovation. In reality, the deal is key to unlocking more and faster innovation, both at product level and within the sectors that the products serve, and will not result in any material loss in horizontal competition. Thermo Fisher must continue to innovate if it is to grow TEM usage and any merger effect would be dwarfed by Thermo Fisher's incentive to grow TEM usage.

1.14 Gatan is a supplier to Thermo Fisher rather than a significant competitor. Gatan does not sell TEMs in competition with Thermo Fisher. Conversely, Thermo Fisher only supplies

[3] Nion also manufactures products similar to TEMs in some respects, but does not use Gatan peripherals. Nion has not purchased any products from Gatan in over [REDACTED].

cameras for use with its own microscope system. Moreover, the Parties' current and potential future products are differentiated and better suited to different applications.

1.15 There is very limited competition between the Parties' products in the very small aftermarket for DD cameras to be retro-fitted on Thermo Fisher microscopes, [REDACTED]. There is another independent supplier of DD cameras – Direct Electron ("**DE**") – which is growing in strength. For example, DE recently won a tender to supply a DD camera to the University of Glasgow for high-end life science research.

1.16 Thermo Fisher's drive to grow the market [REDACTED]. This will further benefit consumers and science both in the UK and globally. In contrast, if the deal does not happen, [REDACTED] – competition will be dulled.

***The deal has limited UK nexus***

1.17 There is a limited UK nexus. Both Thermo Fisher and Gatan are companies based in the US and the TEM market is global in geographic scope. Gatan's other TEM customers (JEOL and Hitachi) are both based in Japan. Gatan's annual UK turnover is only [REDACTED] and the Transaction is only caught by UK merger control on the basis of the share of supply test if Thermo Fisher's internal (captive) sales of DD cameras are taken into account.

1.18 In light of the above, the merger will be pro-competitive – stimulating innovation and delivering both price and quality benefits to consumers. It will not result in a SLC in the UK.

## 2. Deal Rationale is Pro-Competitive

2.1 Thermo Fisher is a pioneer in electron microscopy innovation. Historically, Thermo Fisher has grown the market for TEMs by making the microscopes better and easier to use. For example, Thermo Fisher grew its TEM system sales to the life science sector from [REDACTED] in 2014 to around [REDACTED] in 2018 by making the instrument better and easier to use and therefore expanding the total market demand. This continues to be Thermo Fisher's strategy in life science, material science and other applications. Thermo Fisher's main growth opportunity is continuing to develop and improve TEMs, so as to grow the addressable market and to make TEMs less expensive and easier to use.

2.2 [REDACTED].

2.3 The rationale behind the Transaction is two-fold:

(i) Firstly, [REDACTED].

(ii) Secondly, [REDACTED].

## 3. The Deal Results in Better, Easier to Use Microscopes

3.1 Electron microscopy is a powerful technique for observing small particles in life science and materials science research and semi-conductor analysis. However, demand for

electron microscopes has in the past been limited by the cost of purchasing the instrument and by the cost and complexity of operating the instrument.

3.2 Taking life science as an example, Thermo Fisher's pioneering innovation has already dramatically grown the use of electron microscopes. Nonetheless, electron microscopes systems and workflows remain expensive and are complex to operate. There are up to 6,000 steps in the workflow to get a reliable result. The microscopes require specialist PhD level operators who are expensive and in short supply. This problem is accentuated by the fact that electron microscopy is new in life science and so only a small number of life science researchers have the necessary microscopy expertise. These systems also currently require expensive specialist rooms and data storage solutions. This means that the total addressable market is limited to around [REDACTED] early adopter/[REDACTED] universities globally with access to the funding and expertise needed to buy and operate a high-end electron microscope. Since most of these customers now have TEMs (and the devices have a long lifespan), Thermo Fisher needs to continue expanding the market to grow its business.

3.3 Thermo Fisher wants to create easier to use microscopes [REDACTED]. If it can succeed in doing this, the total addressable market will grow [REDACTED]. This will also involve TEM systems doing work that is currently done using other technologies [REDACTED]. Thermo Fisher aims to grow its life science TEM business from [REDACTED] to more than [REDACTED] if it can successfully innovate products to reach these customers.[4] [REDACTED].

3.4 [REDACTED].

3.5 This means for example:

(i) [REDACTED];

(ii) [REDACTED]; and

(iii) [REDACTED].

3.6 [REDACTED]:

(i) [REDACTED];

(ii) [REDACTED];

(iii) [REDACTED]; and

(iv) [REDACTED].

3.7 [REDACTED]. However, the merger will result in customer benefits being secured more reliably and more quickly than would otherwise be the case:

[4] Similarly, Thermo Fisher intends to grow TEM system use in other applications, including material science.

(i) Gatan cannot achieve the benefits itself because it does not produce an electron microscope; and

(ii) Thermo Fisher cannot achieve the benefits itself because it does not have a direct equivalent to the Gatan filter/camera. While Thermo Fisher produces its own DD camera, Thermo Fisher's products are differentiated from the market-leading Gatan filter/camera products – as explained further in section 6 below. [REDACTED].

3.8 Moreover, as is to be expected from vertical mergers, customers will be likely to benefit from lower prices than would otherwise prevail. [REDACTED].

3.9 Thermo Fisher's innovation is likely to stimulate further innovation in the market by others. This will further benefit consumers and science both in the UK and globally. In contrast, without the merger:

(i) Thermo Fisher will continue to innovate but this will take longer and [REDACTED];

(ii) [REDACTED]; and

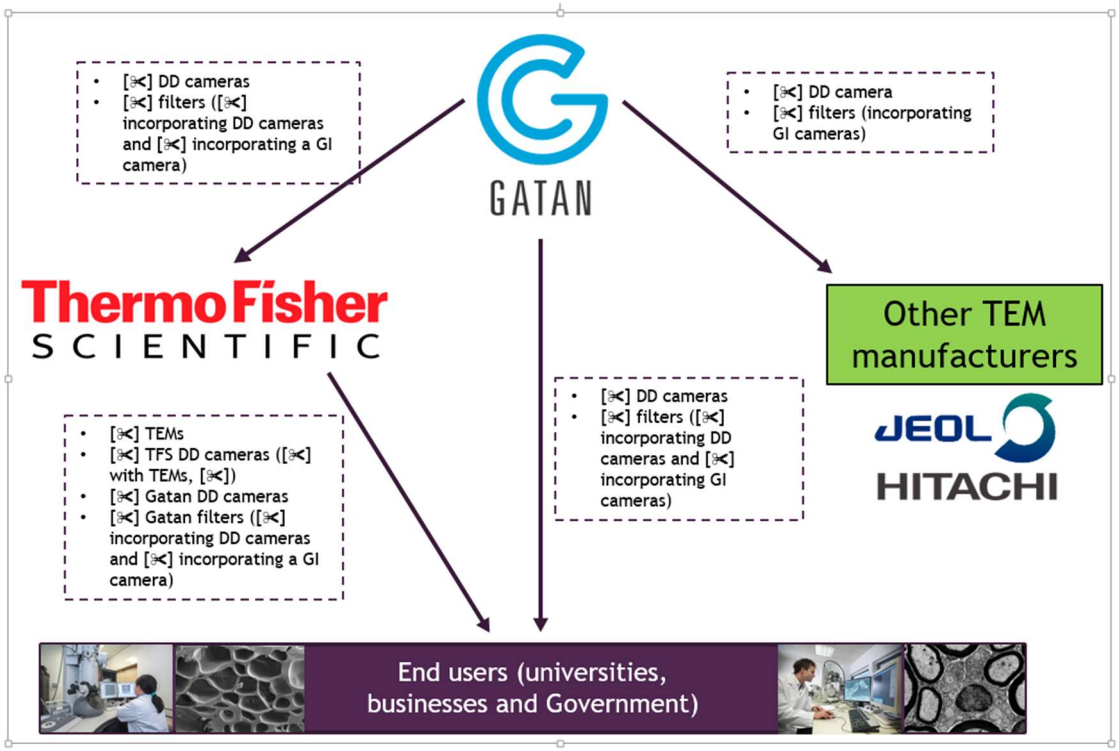
(iii) [REDACTED].

## 4. Parties' Relevant Activities

4.1 The Parties are active at different levels of the supply chain. Thermo Fisher is a supplier of electron microscope systems, whereas Gatan is a supplier of peripherals used in electron microscope systems.

4.2 Figure 4.1 below shows the Parties' sales of the relevant products (TEMs, DD cameras, filters (incorporating DD cameras) and filter (incorporating GI cameras) for the UK for the period 2015-2017:

**Figure 4.1**
**Parties' sales of TEMs, DD cameras and filters in the UK (2015-17)**[5]




4.3 Table 4.1 below shows a breakdown of Thermo Fisher and Gatan's UK sales of TEMs, standalone DD cameras and filters (incorporating DD cameras) for the UK for the period 2015-2017:

[5] Excluding Gatan's sale of [REDACTED] incorporating a DD camera to a UK-based distributor (Oxford Instruments) for sale on to end users outside the UK.

**Table 4.1**
**Parties' sales of TEMs, filters (incorporating DD cameras) and standalone DD cameras in the UK (2015-2017)**

| | TEM Manufacturers | | End user sales | | Distributors[6] | |
|---|---|---|---|---|---|---|
| | No. of sales | Value (£k)[7] | No. of sales | Value (£k) | No. of sales | Value (£k) |
| **Thermo Fisher** | | | | | | |
| TEM Systems | - | - | [REDACTED] | [REDACTED] | - | |
| *of which aftermarket sales are:* | | | [REDACTED] | [REDACTED] | | |
| Standalone DD cameras | - | - | [REDACTED] | [REDACTED] | - | |
| *of which aftermarket sales are:* | | | [REDACTED] | [REDACTED] | | |
| **Gatan** | | | | | | |
| Standalone DD cameras | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | - | |
| *of which aftermarket sales are:* | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | | |
| Filters (incorporating DD cameras) | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| *of which aftermarket sales are:* | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |

4.4 As can be seen from Table 4.1, Thermo Fisher's UK sales are predominantly TEM systems – it made [REDACTED] of a DD camera in the aftermarket in the period 2015-2017. Gatan's relevant UK sales are predominantly filter/DD camera combinations – [REDACTED] of a standalone DD camera in the aftermarket.

## 5. Nexus with the UK

5.1 The Parties' presence in the UK is limited. Indeed, the Transaction has very little UK nexus:

(i) Both Parties are based in the US and have no TEM-related manufacturing facilities in the UK;

(ii) Gatan's only other TEM manufacturer customers for TEM peripherals, JEOL and Hitachi, are both based in Japan;

(iii) Gatan's UK turnover is very small - [REDACTED] in 2017 (including sales of other peripherals) – this is far short of the £70 million turnover test threshold. In 2017

[6] There are currently no distributors of Gatan products who sell to UK end users. [REDACTED] captured in the table is [REDACTED] to Gatan's distributor, Oxford Instruments, who solely re-sells to end users outside the UK.

[7] [REDACTED]. Gatan sales to TEM manufacturers in this table reflect sales of peripherals to TEM manufacturers based outside the UK that are incorporated into TEMs sold to UK based end users.

Gatan sold just [REDACTED] of filters and [REDACTED] DD cameras in the UK; and

(iv) The Transaction is only caught by the UK's share of supply jurisdictional test if Thermo Fisher's sales of DD cameras as part of its TEM sales are taken into account – and this is not a market in which Gatan competes.

## 6. The Deal Has No Harmful Effect on Competition

### (A) Vertical Effects

***Thermo Fisher intends to continue supply of Gatan products to third parties***

6.1 JEOL and Hitachi are Thermo Fisher's only competitors in the supply of TEMs. Although Thermo Fisher is the largest Gatan customer, the business is heavily reliant on sales to other TEM manufacturers and to end-users operating non-Thermo Fisher TEMs. Thermo Fisher accounts for only [35-45]% of Gatan's total peripherals revenue in 2018.

6.2 The success of the Gatan business is therefore dependent on the ongoing support of JEOL and Hitachi as customers. Thermo Fisher is determined to retain both companies as long-term customers to secure the profitability of the Gatan business over time. This is demonstrated by the following:

(i) Thermo Fisher's pre-Transaction internal documents [REDACTED];[8]

(ii) Thermo Fisher has made a public commitment on its website to continue to supply Gatan products to third parties, and has also made the same commitment in letters to its EM customers;[9] and

(iii) Shortly before the Transaction was announced, [REDACTED]. The ensuing negotiations resulted in legally binding supply agreements with each of JEOL and Hitachi.[10] [REDACTED].

6.3 Maintaining supply of Gatan products to third parties will also be consistent with Thermo Fisher's wider business model. Thermo Fisher's company-wide revenue of £16.23 billion depends on its broader ability to work collaboratively with other industry constituents, and its [REDACTED] Fisher Scientific business in particular depends on its reputation as a reliable partner for businesses across the industry, including competitors. Thermo Fisher has for a long time supplied JEOL with [REDACTED] for its EM business, even though JEOL is a competitor. Any perception that Thermo Fisher has started to treat rivals

[8] For further examples, [REDACTED].

[9] See: https://www.fei.com/thermo-fisher-scientific-enters-into-agreement-to-acquire-gatan/. The statement reads that "Thermo Fisher has a long-standing history and reputation of supplying companies regardless of whether they also compete with specific product lines. Thus, after the Transaction closes, you can be assured that no matter what brand of microscope is in your lab, all Gatan peripherals will remain fully supported."

[10] [REDACTED].

unfairly could result in third party manufacturers withdrawing their business from Thermo Fisher. [REDACTED].

***JEOL and Hitachi are protected by supply agreements***

6.4 The supply agreements provide JEOL and Hitachi with more beneficial terms than those prevailing pre-merger. By way of very brief summary, each of the agreements provides:[11]

(i) A right to long-term supply of relevant Gatan products and service support for a period of up to [REDACTED] for JEOL and at least [REDACTED] for Hitachi;

(ii) [REDACTED];

(iii) [REDACTED];[12]

(iv) [REDACTED]; and

(v) [REDACTED].

6.5 Consistent with the pre-merger position, [REDACTED][13].

6.6 Given the Merged Entity will be contractually obliged to supply JEOL and Hitachi post-Transaction, it will be not possible for Thermo Fisher to totally foreclose its TEM rivals.

6.7 Furthermore, it is not possible that JEOL and Hitachi could be partially foreclosed given the strong commitments in the agreements, [REDACTED].[14] [REDACTED].

6.8 [REDACTED][15]

6.9 [REDACTED]:

(i) [REDACTED].[16]

[REDACTED][17] [REDACTED].

[11] For more detailed summaries of the key terms of the supply agreements [REDACTED].

[12] [REDACTED].

[13] [REDACTED].

[14] In any event, Gatan has only recently released new filter and camera products that [REDACTED].

[15] [REDACTED]

[16] [REDACTED]

[17] [REDACTED]

(ii) [REDACTED][18] [REDACTED].[19]

(iii) [REDACTED]

6.10 As to new entry in DD cameras and filters: The Parties have provided evidence in Phase 1 that new products could be developed and launched [REDACTED] within 3 years.[20] Moreover, even if entry took longer, [REDACTED]. Thermo Fisher's competitors are therefore well protected.

**(B) Horizontal Effects**

***There is limited pre-merger competition between Thermo Fisher and Gatan***

6.11 Gatan is a supplier to Thermo Fisher rather than a significant competitor. The Parties are predominantly active at different levels of the supply chain and are differentiated with respect to DD cameras. This is true even looking forward to consider potential future products.

6.12 Gatan only competes with Thermo Fisher to a marginal extent:

(i) Gatan does not sell TEM systems. It sells peripheral products for TEM systems to TEM manufacturers (and direct to end users in the aftermarket);

(ii) Thermo Fisher sells TEM systems – it does not sell peripheral products such as DD cameras independently of its TEM systems (except very occasionally in the aftermarket to its own TEM customers);

(iii) Gatan's DD cameras have different characteristics to Thermo Fisher's DD cameras. [REDACTED]; and

(iv) Any direct competition between the Parties' products is therefore limited to the very small aftermarket and the rare instances where Thermo Fisher customers are looking for a new standalone DD camera as a replacement or as a retrofit on older TEM systems.

<u>The Parties' DD cameras are differentiated</u>

6.13 The Thermo Fisher DD camera has a different focus than the Gatan DD camera.

6.14 Thermo Fisher's DD camera (the Falcon) is primarily used for observing very small samples within single particle analysis ("**SPA**"). This involves taking very high resolution images of small samples – usually a single protein or virus that is less than 100kDaltons

[18] Both companies are publicly traded, multi-national corporations, with annual turnover of £700 million and £62.4 billion, respectively. These corporations are sophisticated, well-resourced, and are certainly familiar with the negotiation of enforceable contracts that adequately protect their rights.

[19] [REDACTED]

[20] [REDACTED]

in size and needs to be resolved at less than 2 angstroms. An example would be the Polio virus, which is quite small. Thermo Fisher believes that [REDACTED].

6.15 However, the Gatan DD camera is much faster than the Thermo Fisher Falcon camera (it operates at 1500 frames/second in comparison to around 40 frames/second for the Falcon). This speed plus the fact that the Gatan DD camera can be used as part of the Gatan filter means that Gatan is [REDACTED] to Falcon in different applications:

(i) Observing larger particle sizes within SPA. For example, samples of more than 1MDalton in size are usually best observed with the assistance of a filter and with a camera that can take a large number of images very quickly. Examples would be the Ebola or Influenza virus, both of which are relatively large. The Falcon is [REDACTED] cannot be used alongside the Gatan filter [REDACTED].

(ii) Observing samples using the tomography technique. Whereas SPA involves observing a single protein, tomography involves observing a (whole or partial) cell. Because the sample is a thicker and more complex structure than a single protein, tomography requires a filter. The Falcon is [REDACTED] cannot be used alongside the Gatan energy filter and [REDACTED].

6.16 The large majority of customers who purchase a Thermo Fisher TEM system with a Gatan filter/DD camera would not regard the Thermo Fisher DD camera as a substitute. The table below shows details of the [REDACTED] TEMs sold by Thermo Fisher in the last 3 years in the UK. Of the [REDACTED] customers who purchased the Gatan filter/camera combination - [REDACTED] also purchased the Falcon Camera.

6.17 Customers would not have paid a premium for the Gatan filter/DD camera combination if the Falcon was a good substitute – on average, over this period the price of a Gatan filter/DD camera (as charged by Thermo Fisher to purchasers of TEM systems in the UK) was [REDACTED]and a Falcon camera was [REDACTED].[21]

[21] These figures relate to peripherals sold by Thermo Fisher as part of a TEM system sale in 2015-2017. [REDACTED].

**Table 6.1**
**Thermo Fisher's UK Sales of TEMs and peripherals, 2015-2017 (units)**

| | 2015 | 2016 | 2017 | Total |
|---|---|---|---|---|
| **Thermo Fisher TEM sales** | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Sold with a Thermo Fisher DD camera | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Sold with a standalone Gatan DD camera | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Sold with a Gatan filter (incorporating a DD camera) | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Sold with both a Thermo Fisher DD camera and a Gatan filter (incorporating a DD camera) | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |

6.18 The differentiation between the Parties' DD cameras is evidenced by the fact that Gatan's camera when sold on a standalone basis is approximately [REDACTED] more expensive than Thermo Fisher's Falcon camera on a like-for-like basis. See further Table 6.2 below:

**Table 6.2**
**Parties' Average Prices, DD cameras, 2015-2017**[22]

| | GBP(k) | GBP(k) |
|---|---|---|
| | **Worldwide** | **UK** |
| *Gatan DD cameras* | [REDACTED] | [REDACTED] |
| *Thermo Fisher DD cameras* | [REDACTED] | [REDACTED] |

The UK aftermarket is very small

6.19 The aftermarket for DD cameras is very small and the Parties can only feasibly compete for sales to existing Thermo Fisher customers (as Thermo Fisher's Falcon camera is not sold to, and not technically compatible with, its competitors' TEMs).

6.20 Table 6.3 below details the Parties' sales of DD cameras in the UK aftermarket:

[22] Parties' average prices calculated across all sales of standalone DD cameras 2015-2017, including DD cameras sold as part of a TEM system bundle and DD cameras sold outside of TEM system bundles, and Gatan sales to all customers (TEM manufacturers and end users). [REDACTED]).

**Table 6.3**
**Parties' UK Sales of DD Cameras in the Aftermarket**
**(Thermo Fisher TEM customers only), 2015-2017 (units)**

| | 2015 | | 2016 | | 2017 | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Units | £(k) | Units | £(k) | Units | £(k) | Units | £(k) |
| Thermo Fisher | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Gatan (standalone DD cameras) | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Gatan (filters incorporating DD cameras) | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |

6.21 Competition between Gatan and Thermo Fisher in the aftermarket is limited for the following reasons:

(i) As the CMA accepts, should a peripheral need replacing during the lifetime of a TEM (i.e. the aftermarket), end-users will typically purchase a replacement from their TEM manufacturer;[23]

(ii) As is clear from Table 6.3 above, [REDACTED] Gatan's sales in the aftermarket are of filters with integrated DD cameras. Clearly, Thermo Fisher's standalone DD camera cannot compete with, and cannot be a substitute for, Gatan's filter; and

(iii) Thermo Fisher only sells its DD cameras in the aftermarket to pre-existing customers who have purchased a Thermo Fisher TEM. There are very limited opportunities for sales of standalone DD cameras to Thermo Fisher TEM customers:

(a) Thermo Fisher [REDACTED] DD camera in the UK aftermarket in the period 2015-2017, for a value of [REDACTED].

(b) Gatan [REDACTED]standalone DD camera for use with a Thermo Fisher TEM in the UK in the period 2015-2017, for a value of [REDACTED].

[23] Phase I Decision, paragraph 40.

6.22 Moreover, DE is a direct competitor to Gatan. DE offers a high quality DD camera for use in both life science and materials science applications and has been rapidly building a significant UK and global presence in recent years. In particular, [REDACTED].[24]

6.23 For the reasons explained above, the Transaction will not result in any material loss of competition in the supply of DD cameras in the UK.

***There is no loss of potential competition – the deal promotes more innovation***

6.24 The CMA's Phase I decision expressed concern around loss of innovation. In reality, the deal will enable more innovation to occur than would have been the case absent the merger. Thermo Fisher's incentives to innovate are driven by the opportunity to expand the market for electron microscopes by making them less expensive and easier to use.

6.25 [REDACTED].

6.26 [REDACTED]:

(i) [REDACTED]; and

(ii) [REDACTED].

6.27 Even if there was any loss of potential competition between Thermo Fisher and Gatan, no concerns would arise because:

(i) First, existing players (such as JEOL in filters and DE in cameras) and new players (such as CEOS in filters) will continue to innovate independently of Thermo Fisher post-merger; and

(ii) Second, Thermo Fisher's innovation incentive [REDACTED] is primarily driven by the opportunity to grow the addressable TEM system market and by competition from its TEM rivals, not by competition from its supplier (Gatan). In life science alone, Thermo Fisher has the opportunity to grow the addressable market by more than [REDACTED]/year in the next five years. This is a much bigger incentive for Thermo Fisher to innovate than the opportunity to capture sales from Gatan.[25] It would be irrational for Thermo Fisher to slow innovation in response to the merger with Gatan when that would risk its ability to grow the addressable market.

[24] [REDACTED]. Direct Electron's global market share for the supply of standalone DD cameras has increased against Gatan from [25-35]% in 2015 to [45-55]% in 2017 – see [REDACTED].

[25] In comparison, the total value of Gatan DD cameras sold for use with Thermo Fisher TEMs in 2017 was only around [REDACTED]. Even if filters are included, the total value of Gatan equipment sold for use with Thermo Fisher TEMs in 2017 was only [REDACTED]. Given the differentiation between Thermo Fisher and Gatan, few of those Gatan sales are competitive with Thermo Fisher. But even if all of those sales were actually or potentially competitive with Thermo Fisher – the value of those sales is dwarfed by the more than [REDACTED] opportunity to grow the market.

6.28 Consistent with Thermo Fisher's ongoing innovation incentives, there will be no reduction in R&D spend as a result of the Transaction. In fact, [REDACTED], as Thermo Fisher invests to develop new TEM peripherals with increased integration.

6.29 In summary, the deal unlocks and promotes innovation that will benefit customers and advance science.