

Clearlab SG Pte Ltd v Ting Chong Chai and others
[2014] SGHC 221

Case Number : Suit No 691 of 2011
Decision Date : 03 November 2014
Tribunal/Court : High Court
Coram : Lee Seiu Kin J
Counsel Name(s) : Lok Vi Ming SC, Joseph Lee, Tang Jinsheng, Nadia Yeo and Crystal Goh (Rodyk & Davidson LLP) for the plaintiff; Christopher Woo and Douglas Wong (Quahe Woo & Palmer LLC) for the first to sixth and ninth defendants; Jason Chan and Melvin Pang (Amica Law LLC) for the seventh and eighth defendants.
Parties : **CLEARLAB SG PTE LTD — (1) TING CHONG CHAI — (2) RATHINARAJ DAVID — (3) GOH WEE HONG — (4) NG CHEE HAN — (5) AQUILUS LENS INTERNATIONAL PTE LTD — (6) CENTRAL GLOBAL PTE LTD FKA CENCORP ENGINEERING PTE LTD — (7) MA ZHI — (8) LI YUEXIN — (9) HO KAR KIT**

Tort – Confidence

Tort – Conspiracy

Contract – Breach

Equity – Fiduciary relationships

Tort – Inducement of breach of contract

Equity – Trusts – Accessory liability – Dishonest assistance

Equity – Trusts – Recipient liability – Knowing receipt

Tort – Conversion

3 November 2014

Judgment reserved.

Lee Seiu Kin J:

Introduction

1 The plaintiff's primary claims in this suit are that its four ex-employees ("the ex-employees") had taken its confidential information and used it for the benefit of a rival company, which they subsequently joined. The plaintiff also had ancillary claims against the rival company and its owner as well as against an ex-contractor of the plaintiff. The plaintiff's claims are for breach of confidence, conspiracy, breach of employment contract, breach of fiduciary duty, inducing breach of contract, dishonest assistance, knowing receipt, conversion and breach of supply agreement.

2 The trial lasted 49 days. For the reasons given in this judgment, I allow, in part, the claims for breach of confidence, conspiracy, breach of employment contract, breach of fiduciary duty and conversion against the four ex-employees and the rival company and its owner. I dismiss the rest of the claims. The detailed orders are set out in [330]–[333] and [344]–[345] below.

The facts

The parties

3 The plaintiff is Clearlab SG Pte Ltd ("Clearlab"). It is a company engaged in the manufacture and sale of contact lens.

4 The first four defendants are the ex-employees. The first defendant is Ting Chong Chai ("Ting"), the former Head of Engineering and Technology Development at Clearlab. Whilst working at Clearlab, Ting oversaw the manufacturing process and the research and development ("R&D") projects related to the manufacturing process. The second defendant is Rathinaraj David ("David"), previously an R&D engineer in Clearlab's engineering department. David's work at Clearlab included preparing lens formulations and developing new lens material. The third defendant is Goh Wee Hong ("Goh"). He was an assistant manager of the R&D department charged with designing inserts and directing the cutting of those inserts. Additionally, he is Ting's nephew. The fourth defendant is Ng Chee Han ("Ng"), a former senior optical tooling technician in the Insert Manufacturing department. His work at Clearlab mainly comprised the cutting of inserts using a computer numerical control machine known as Optoform 80. In this capacity, he worked with Goh to produce the inserts designed by Goh. David, Goh and Ng were Ting's subordinates in Clearlab and they reported to him.

5 The fifth defendant, Aquilus Lens International Pte Ltd ("Aquilus"), is the company that the ex-employees joined after they left Clearlab. It was incorporated on 7 July 2010 by the ninth defendant, Ho Kar Kit ("Ho").

6 Ho is also the owner of the sixth defendant, Central Global Pte Ltd (formerly known as Cencorp Engineering Pte Ltd) ("Central Global"). Central Global's main business is in fitting out factories. It had undertaken 49 remodelling and repair projects for Clearlab.

7 The seventh and eighth defendants are a married couple, Ma Zhi ("Ma") and Li Yuexin ("Li"). They have a partnership called OSC Automation Engineering ("OSC"), through which they undertake engineering projects. Ma is in charge of the technical aspect of the partnership whereas Li is in charge of the business aspect. From 2009 to 2010, OSC serviced Clearlab for various engineering matters. In 2011, Li registered a sole proprietorship, Optic Automation Engineering ("Optic"). Ma and Li undertook work for Aquilus through Optic instead of OSC.

8 For the purposes of this suit, there are essentially two groups of defendants. The first is directly associated with Aquilus, *ie*, the first six defendants and the ninth defendant. In parts of this judgment, I have referred to them as "the defendants". The second comprises Ma and Li, and reference to "the defendants" would not include them.

Key events leading up to the dispute

9 As this dispute revolves around very extensive and detailed facts, it is useful to first set out the key events in a chronological order. Thereafter, as I analyse each cause of action, the relevant facts which bear on the issues will be repeated for convenience.

10 The background facts are as follows.

11 Clearlab was incorporated on 24 May 2007 as a wholly-owned subsidiary of Mi Gwang Contact Lens Co Ltd ("Mi Gwang"). Dr Park Jong-Gu ("Dr Park") was appointed as its chairman, and his wife,

Park Hae Kyeung ("Mrs Park"), was appointed as its managing director. Both Dr Park and Mrs Park are undisputedly the movers and shakers in Clearlab. On 25 May 2007, a sale and purchase agreement ("S&P Agreement") was entered into by Clearlab, Mi Gwang, 1-800 Contacts Inc and Clearlab International Pte Ltd in respect of the "Acquired Assets". Briefly, the "Acquired Assets" are a manufacturing facility in Singapore, all the tangible property, fixed assets and inventory at the manufacturing facility, intellectual property relating to the products produced at the manufacturing facility, existing rights relating to supply and distribution, know-how related to the manufacturing process, capital stock of Clearlab Europe Ltd and capital stock of Shayna Ltd. Importantly, one of the intended outcomes of the S&P Agreement was to obtain for Clearlab the right to use a spincast manufacturing technology to manufacture contact lens.

12 In the second half of 2008, the ex-employees joined Clearlab one after another. Ting joined first, on 1 July 2008. His nephew, Goh, joined Clearlab next on 4 August 2008. Then Ng joined on 28 October 2008, and David joined on 3 December 2008. Prior to joining Clearlab, Ting, Goh and David had been working at another contact lens manufacturer, CIBA Vision.

13 In 2010, three major events unfolded which set the stage for the ex-employees to leave Clearlab and join Aquilus. First, Aquilus came into existence. It was incorporated by Ho on 7 July 2010 with \$200,000 as its start-up capital. Two weeks after its incorporation, on 28 July 2010, Ho made enquires with Clearlab about the possibility of Aquilus becoming a distributor of Clearlab's products. This resulted in a meeting on 26 August 2010 between Ho and Mrs Park at Clearlab's office on the very matter of distributorship, but the matter was not taken any further.

14 Second, seeds of friction were sown by the various emails that Ting sent. His July 2010 emails claimed that Sim Kok Seng ("Simon"), who is the Head of Regulatory Affairs and Compliance, was hoarding Clearlab's confidential documents, displayed "strange" behaviour, was "not a good team player", and was perpetually late for work. Ting then insinuated that Simon "might be looking around for another job". [\[note: 1\]](#) On 23 July 2010, Ting complained to Dr Park and Mrs Park that "[t]oday's Clearlab is becoming too bureaucratic and inefficient" and that other people in Clearlab "really insulting my presence [*sic*]" by instructing his engineers to do work without his knowledge. Ting gave an ultimatum to Dr Park and Mrs Park to "[pay] attention before myself and my team decide for another career [*sic*]" [\[note: 2\]](#) The unhappy emails continued all the way to March 2011, but it was clear by June 2010 that Ting's relationship with his other colleagues was increasingly deteriorating.

15 Third, Ho claimed to have steered Aquilus in a new business direction in October 2010: [\[note: 3\]](#) he decided that Aquilus would undertake the manufacturing of contacts lens instead of distribution. Consistent with this decision, he took the following preparatory steps. In February 2011, Ho engaged Tay Ah Teck John from Synergy Solutions Associates to provide consultancy services on the ISO certifications that Aquilus would require. In March 2011, Ho started on the construction of a clean room, increased Aquilus' capital to \$700,000 and got Ting to attend meetings at Aquilus. On 31 March 2011, Ho met Toh Boon Hou William ("Toh") from TRAXonline Solutions LLP to discuss Aquilus' mould base design.

16 By the end of 2011, all the ex-employees had left Clearlab and joined Aquilus. It began with Ting, who was abruptly dismissed from Clearlab on 26 April 2011. Upon dismissal, Ting left Clearlab's premises with his personal laptop which he was using for his work at Clearlab. Ting also attempted to leave with bags of documents and boxes but was stopped from doing so.

17 On 3 May 2011, Ting commenced full-time work in Aquilus. He was the only technical personnel at Aquilus at that time; David, Goh and Ng were still employed at Clearlab, but this was soon to

change. Ting approached David, Goh and Ng individually to offer them employment at Aquilus. All of them accepted the offer. David signed his letter of offer on 9 May 2011, and Goh and Ng signed theirs on 10 May 2011. Within the same month, David, Ng and Goh tendered their resignations to Clearlab. Ng resigned on 25 May 2011 and left on 24 July 2011, David resigned on 26 May 2011 and left on 25 July 2011 and, lastly, Goh resigned on 30 May 2011 and left on 29 July 2011. They did not disclose to Clearlab that they were leaving to join Aquilus. David said that he was going back to India to teach, whereas Goh and Ng said that they were joining an engineering company.

18 Also in May 2011, certain steps were taken which would pave the way for Aquilus to obtain certifications. On 18 May 2011, Ting got himself engaged by TQCS International Pty Ltd ("TQCSI"), an audit firm. He signed a document entitled "Auditors & Technical Specialists Confidentiality Agreement" ("TQCSI Confidentiality Agreement"), which provided undertakings of confidentiality from Ting with regard to any audit work that he may partake in. Shortly afterwards, on 26 May 2011, Looi Peck Eng ("Nancy Looi"), who was Aquilus' manager, enquired TQCSI about the certification of Aquilus for four standards: ISO 13485:2003, ISO 14001:2004, ISO 9001:2008 and OHSAS 18001:2007.

19 Aquilus formally applied to TQCSI for the certification of the aforementioned standards on 1 June 2011.

20 The workforce in Aquilus expanded when David, Goh and Ng started work at Aquilus on 1 August 2011. The capital of Aquilus was also expanded when Ho increased it to \$1.8m. At the same time, Ho issued 360,000 shares (*ie*, 20% of the total number of shares in Aquilus) to Ting's wife, Kerk Bong Chee, which she held as a nominee for Ting. That same month, some members of the staff of Clearlab spotted Ting and David at a seminar organised by the Health Sciences Authority of Singapore ("HSA") and discovered that they were working for Aquilus. That discovery led Clearlab to investigate the computers used by the ex-employees.

21 Meanwhile, unaware that Clearlab had formed suspicions about Aquilus, the defendants made progress with their goal of certifying Aquilus for the three ISOs and one OHSAS standards. In September 2011, TQCSI was invited to Aquilus' premises to conduct an audit on Aquilus for the purpose of certification. Throughout the audit, which took place over a number of days, Ting was on record as TQCSI's nominated technical specialist and as having accompanied the auditors from TQCSI to carry out the audit on Aquilus.

22 On 3 October 2011, Clearlab filed a writ of summons in this suit. The next day, on 4 October 2011, Clearlab applied, by way of *ex parte* summons for a search order, against Ting, David and Aquilus, which it obtained on 6 October 2011. The search order was executed over nine non-consecutive days, starting from 17 October 2011.

23 On the first day of the search, which is 17 October 2011, the plaintiff's solicitors and the supervising solicitor entered Aquilus' premises. The search order was served on Nancy Looi, David, Aquilus and Ng. Although it was not served on Ho, the order was explained to him. By the afternoon, the first to sixth defendants' solicitor, Clearlab's IT forensic expert (Darren Cerasi ("Cerasi")) and Clearlab's representatives (Dr Park, Simon and Wong Yun Hui) arrived at Aquilus' premises. The physical search of Aquilus' premises then commenced. The search was first conducted of the laboratory area, where Dr Park took photographs of the chemicals found in the fridge and the contents of storage cabinets. A set of plastic casts found therein were also tagged. The search moved on to the cleanroom and photographs of the cleanroom were also taken. Next, the search was done on the electronic devices at Aquilus' premises. In particular, during the preview of the hard disk of David's computer, the flashdrive found at David's work station and the hard disk of Ting's computer, Clearlab's documents surfaced. This led Cerasi to image the three devices.

24 Concurrently, on the same day, a search was conducted of David's home by a different team of solicitors. The search order was served on David's sister-in-law, who was the owner of the apartment. As part of the search, the computers and laptop at the apartment were previewed. It was then discovered that the hard disk of a Dell Inspiron laptop contained a document bearing Clearlab's letter and the hard disk of a HP Compaq computer contained files and folders which were deleted earlier in the day. Both hard disks were imaged.

25 The following day, 18 October 2011, the search of Aquilus' premises and David's home continued. At Aquilus' premises, Ting and Goh were served with the search order. Thereafter, Cerasi resumed his search of the contents of the electronic devices at Aquilus. He found "SOP-ENG-02-01 Insert Manufacturing Inventory cvontol.docx" in Goh's computer hard disk. He also found what Simon and one of the plaintiff's solicitors believed to be Ting's business card in Nancy Looi's computer hard disk. Based on that, the two hard disks were imaged. Meanwhile, a second IT forensic expert (Pravin Pandey ("Pandey")) who was brought onto Aquilus' premises, extracted data from Ting's Nokia phone and the Micro SD card contained within that phone.

26 At David's home, a physical search of the apartment took place but it revealed nothing that was within the search parameters. With that, the search at David's home ended.

27 The search at Aquilus, however, carried on the next day, which is 19 October 2011. Three plastics bags containing PET mould casts ("the PET casts") were found in a room and placed in boxes, which were then sealed. In the afternoon, Pandey started the extraction of data from Goh's Samsung phone, David's Nokia phone and the SIM cards in each of their phones. Because Ho needed to leave Aquilus' premises to attend to other matters, his phone was only visually inspected and the following features were noted down: there were two inbox messages, no outbox messages, two sent items, two missed calls, five received calls, five dialled numbers and more than a hundred contacts stored in Ho's phone.

28 On the fourth day, 20 October 2011, Pandey previewed Ting's Gmail and Yahoo accounts. A keyword search for "Clearlab" produced a number of hits in both accounts. After accessing certain emails from the accounts, it was decided that all emails in both accounts would be imaged. Elsewhere in Aquilus' premises, Cerasi examined Aquilus' server. A file name search on "Clearlab" disclosed three hits, which files appeared to be deleted or overwritten. 11 sub-folders were also opened. The first was "Tech file 1 day lens", which contained a pdf file Simon identified to be Clearlab's document. The other ten sub-folders were named "SOP". All 69 files contained within these 11 sub-folders appeared to be deleted or overwritten as well. As such, Cerasi initiated the imaging of the server data.

29 The imaging process of the server was left running through 21 October 2011, the fifth day of the search, until 24 October 2011, the sixth day of the search. On 24 October 2011, due to the premature termination of the imaging process, it was restarted. It was restarted again on 25 October 2011, the seventh day of the search for the same reason. On 27 and 28 October 2011, the eighth and ninth days of the search, the imaging process hung at 99%, was restarted and terminated at 99%. The plaintiff settled for 99% of imaging and that essentially concluded the search at Aquilus.

30 After the execution of the search order, there were two other noteworthy events. The first was the successful certification of Aquilus for the three ISOs and one OHSAS standards by TQCSI on 3 November 2011, and second was the departure of Ting and Goh from Aquilus in the midst of the trial, on 31 May 2013.

Ting's misdemeanours

31 Before leaving the facts, I set out my findings on the egregious manner in which Ting had conducted himself.

32 Firstly, Ting had attended the meetings in Aquilus while he was employed at Clearlab. While he was helping Aquilus set up a competing business in this manner, Ting sent an email to Mrs Park on 24 March 2011, complaining about Simon and stating that "Many people in the company including me are hoping our bosses can trust the right person". [\[note: 4\]](#)

33 Secondly, Ting helped assemble the core team (comprising himself, David, Goh and Ng) at Aquilus by poaching Clearlab's employees.

34 Thirdly, he helped himself to Clearlab's PET casts (even after being dismissed from Clearlab) by instructing Goh (who was still at Clearlab) to get those casts for Aquilus. Ting attempted to excuse his behaviour by claiming that the PET casts were to be discarded by Clearlab because the project had failed and that the PET casts were never used by Aquilus. None of these excuses have been corroborated by independent evidence. He did not satisfactorily explain how, even if the PET casts were to be discarded eventually, he was entitled to obtain them for Aquilus.

35 Fourthly, he acted as technical specialist in TQCSI's audit of Aquilus. The TQCSI Confidentiality Agreement that he signed on 18 May 2011 not only provided undertakings of confidentiality, it also contained a term that Ting would ensure that he had not provided consultancy services to Aquilus in the preceding two years and did not have any personal interest in its affairs. It also required him to report to TQCSI any matter that may affect his role as technical specialist. These terms were blithely breached by Ting. Ting joined Aquilus on 3 May 2011, two weeks before he signed the TQCSI Confidentiality Agreement. Ting was so totally not independent that his attempts to explain this conflict beggars belief.

36 This was not the end of the charade. In the course of the audit process, Ting, aided by the other Aquilus employees, hid the fact that he was an employee of Aquilus from the audit team. Thus, when Cheng Ying Nung ("Cheng"), the lead auditor, introduced Ting to the Aquilus employees as a member of his audit team, he did not recall anything unusual in their response to make him realise that Ting had any connection with Aquilus. Further, Ting's name did not appear in the organisation charts reviewed by the audit team. I find that "fraudulent" would not be too extreme a word to describe his participation in this audit.

The key witnesses

37 A large number of witnesses have been called by the parties to give evidence. In total, there were 17 witnesses from Clearlab and 11 witnesses from the nine defendants. The key witnesses of fact were the seven defendants who are natural persons: Ting, David, Goh, Ng, Ho, Ma and Li. Because the credibility of their accounts of what happened is crucial to my findings of fact, I will state my observations of their demeanour at the outset. I start with Ting and his evidence about the TQCSI audit.

38 Under cross-examination, Ting denied that he was employed by TQCSI for the audit on the basis he did not receive any payment, despite the fact that the TQCSI Confidentiality Agreement stated that Ting was under the "employment" of TQCSI. Furthermore, Ting did not produce any evidence that TQCSI did not pay him, apart from his bare assertion. Ting also denied that there was a conflict of interest. In Ting's opinion, his role as a technical specialist meant that he was there to benefit Aquilus (and presumably not for the purpose of TQCSI undertaking its role as auditor). This is despite the attendance sheets he signed which included his name under the category of "Other

Auditor(s)". Separately, he claimed that he did not participate in the audit because he only signed the attendance forms at end of the day, and implied that Cheng knew of it because he had given his Aquilus business card to Cheng when they met for the first time. But at another point in time, Ting said he was not involved in the audit because he only helped in the technical aspect of it. These were very audacious claims, made in the face of evidence totally inconsistent with what he earlier said.

39 This is not the sole instance of Ting's demonstrated unreliability as a witness. There were three other instances.

40 Firstly, in relation to Ting's recruitment of Goh for Aquilus, Ting first stated that it was Goh who approached him after Ting's dismissal on 26 April 2011. According to Ting, Goh had problems working with Wong Sie Hung ("Wong"), the person who replaced Ting, because they had a falling out over a partnership they formed for a restaurant business. Ting also said that Goh told him that "when [Ting] was no longer in Clearlab [Goh] had to look for other job". [\[note: 5\]](#) But when Ting was subsequently asked about an Aquilus meeting of 11 April 2011, he said that he proposed to have Goh join Aquilus by July because he knew Goh would come if he asked.

41 Secondly, on the matter of Ho's offer to join Aquilus, Ting said that he had not accepted the Aquilus job by 3 May 2011, and had in fact gone for interviews for other jobs. But in his affidavit of evidence-in-chief ("AEIC"), [\[note: 6\]](#) Ting said that he accepted Ho's offer in early March 2011.

42 Thirdly, with regard to the threat of his dismissal from Clearlab, Ting said in court that in October 2010, Mrs Park had told Simon that Ting would be dismissed very soon, and Simon had told this to Dr Yip Yuen Sing who then told Ting. But in his AEIC, Ting mentioned another period: February 2011. Ting said that he "found out that the MD [ie, Mrs Park] had been secretly talking to a few of my key subordinates to discuss about their ability to do without me in the company". [\[note: 7\]](#) When confronted with the inconsistencies, Ting explained that these were two different events. I found this explanation to be spurious; if there were two different events, then it is odd that the October 2010 event was not mentioned in Ting's AEIC, whereas the February 2011 event, which revolved around the same topic of Ting's threatened dismissal, was considered to be the spark for Ting's acceptance of Ho's offer to join Aquilus.

43 Having considered what Ting said on the stand and the contents of his AEIC, as well as the other documents put to him, I concluded that Ting was an entirely unreliable witness. He was quick with glib explanations (which sometimes led to inconsistent answers) to many questions posed to him. A particularly difficult area for him was the evidence of his conspiracy with the other defendants to take Clearlab's confidential information. Ting was unable to give a coherent explanation to the evidence of conspiracy; he made up explanations for each piece of evidence, which did not gel in totality. Generally, throughout his testimony, Ting did not hesitate to give any answer that came conveniently to mind to explain away any inconsistency in his evidence. The common fall-back positions he adopted were that the statements in the various affidavits he made were mistakes, or he had been confused (eg, about whether he carried one or two bags to dispose of in the early morning of 18 October 2011). [\[note: 8\]](#) Ting had a tendency to willy-nilly shift his position as the situation demanded and I construed his evidence accordingly.

44 The second defendant, David, went on the stand after Ting. He seemed to be somewhat embroiled in inner turmoil. His answers were tentative and he tended to change tack slightly when questioned for detail. He also manifested discomfort, such as hesitation or was slightly choked when pressed by Clearlab's counsel. On some issues, David had selective memory lapses, some of which

were exposed when his testimony was contradicted by other evidence. For example, he had instructed Yeoh Jia Yan Sara ("Sara"), a sales and marketing executive at Aquilus to prepare standard operating procedures ("SOPs") for Aquilus, which she admitted she "copy-typed" from Clearlab's SOPs. On the stand, David explained that he did not know Sara was not technically trained and assumed she was and able to draft the SOPs. But in her AEIC [\[note: 9\]](#), Sara clearly stated that she told David that she was "not qualified and ... may have problems understanding the technical issues". Further, David's own email to Sara instructed her that she "needed to change for Aquilus", and in one of her email replies, she stated that she had "removed all mentioned [sic] of Clearlab". [\[note: 10\]](#) The short time taken by Sara in drafting Aquilus' SOPs clearly supports Clearlab's case that she had relied on the Clearlab SOPs.

45 Another example of David's prevarication was his explanation of an email sent by Ting to him which stated as follows: "Dear David, Do take pre-caution when you tender they might ask you to [sic] immediately so be prepare[d]". [\[note: 11\]](#) This was sent on 25 May 2011, a day before David tendered his resignation. David said that the email meant that Clearlab would ask David to stay on at Clearlab. [\[note: 12\]](#) But that is a strained interpretation of the words. It is far more likely that Ting thought that David would be asked to leave immediately as that was Ting's experience at Clearlab. In the course of cross-examination on this point, David introduced the concepts of "not very confidential" to documents that he had removed from Clearlab which were marked as confidential. This was clearly a lame justification for his removal of those documents and he had to be taken to task on the lack of logic in his answer before he accepted that such documents were confidential.

46 In other parts of his evidence, David made excuses for his behaviour which sounded thin. The two chief excuses he relied on for sending Clearlab's documents to Ting and taking Clearlab's documents were that: (a) he was, at the time, not thinking properly, and (b) the documents were taken for his own reference.

47 In view of the foregoing, I found David to be an unreliable witness and treated his testimony with much circumspection.

48 The third defendant, Goh, appeared to be cooperative, but his answers about his work in designing inserts turned out to be highly inconsistent.

49 Clearlab's primary allegation against Goh is that he had used its confidential "spincastsphere6" computer program ("SCS6") to design inserts in Aquilus. In response, Goh simply said that he had not used SCS6 but had instead used a commercially available software called SolidWorks. However, Goh met with considerable difficulty on 18 February 2014 when he tried to demonstrate in court that he was able to use SolidWorks to design inserts. When he drew a curve for a zero power lens, and inputted the values from SolidWorks into the Multi-Curve Generator program ("MCG"), he found that the Z values were different. He explained that, on the first cut, he had to use MCG to get the Z value. Then, on cross-examination, he said he switched between MCG and SolidWorks several times in order to get his first cut design. By contrast, in his earlier examination-in-chief, he had adhered to what he had said in his AEIC which was that the values from SolidWorks can be inputted into MCG, [\[note: 13\]](#) ie, MCG was not involved at all until the SolidWorks design was completed. Then on 19 February 2014, Goh said that there was no need to go to MCG, and that the description in his AEIC was correct. It would appear from the way Goh's evidence evolved that he was making things up as he went along.

50 Further, Goh's explanations for the inconsistencies were weak. He said that he had not used SolidWorks for eight months and hence had made mistakes. However if SolidWorks was something that

he used since 2009, it was difficult to understand how could he have forgotten whether MCG was involved in the design process.

51 Goh also claimed in his AEIC [\[note: 14\]](#) that he abandoned SCS6 at Clearlab, and he clarified in cross-examination that this was by 2009. But this was contradicted by documents [\[note: 15\]](#) which showed that he had used SCS6 in Clearlab up to 2010. Goh attempted to explain it away by saying that the SCS6 description was false. [\[note: 16\]](#) He said he was afraid to put down SolidWorks as the actual software being used because he might be questioned on his method and be required to change all "related" documents, even those that were not submitted by him. [\[note: 17\]](#) Later on, Goh proffered another explanation and said that the numbers in the working papers were generated using SCS6 but they are "for show" only, *ie*, cannot be used for production. [\[note: 18\]](#) In relation to a specific document with job reference number "DA1P06OT47", Goh explained that "T47" in the job reference number means that the document was a record of the 47th test carried out by him. He said that it was not normal to have so many tests, but 47 tests took place because he had not yet figured out how to produce good lenses with SCS6. [\[note: 19\]](#) His evidence seemed to vacillate according to the documents put before him.

52 In view of Goh's frequent changes of evidence (in respect of the SolidWorks/MCG demonstration as well as the usage/non-usage of SCS6 in Clearlab), I found him to be an unreliable witness. I was unable to accept any of his evidence about his purported ability to design inserts using SolidWorks.

53 The fourth defendant and the last of the ex-employees, Ng, was generally a cooperative witness. He was quite prepared to admit to wrongdoing in terms of his taking of documents belonging to Clearlab and to their confidentiality. His mode of taking these documents was to forward his office emails (containing the documents as attachments) to his personal email account. This occurred sporadically from May 2011 to July 2011. The reason for doing so, he claimed, was for "self-improvement".

54 Despite his overall candour, I cannot believe his explanation that he took Clearlab's documents for "self-improvement". This was simply too incredible, given (a) the volume of such documents, which contained technical details rather than scientific principles, and (b) the timing (*ie*, the documents were forwarded at a time when David was also sending Ting Clearlab's documents and Aquilus was being set up in a hurry). The circumstances point very strongly to a deliberate decision to convert Clearlab's documents for use at Aquilus. I had no doubt that Ng was taking the documents for the purpose of using them in Aquilus.

55 The ninth defendant, Ho, is the principal owner of Aquilus. Much of his evidence was relevant on the question of Clearlab's claim of the existence of a conspiracy involving him and the ex-employees.

56 In terms of his demeanour, I observed that he was fast in giving his answers. At times, he was candid, *eg*, when he admitted that Ting was playing active role when he sat in the Aquilus meetings. But when things got awkward, he tended to shift his answers, which showed that he was making up evidence. An example would be the reasons he gave for deleting documents on the first day of the search. In cross-examination, Ho was referred to his AEIC which stated that the deletion was done in "a moment of panic". [\[note: 20\]](#) Ho explained that, after Ting told him that he had deleted Clearlab's documents from his desktop computer, Ho deleted the server data as well because he thought documents on desktop computers would be replicated in the server. [\[note: 21\]](#) When confronted with another paragraph of his AEIC, [\[note: 22\]](#) where Ho said he deleted the server data because he did not

want Clearlab to get Aquilus' confidential documents, he said that that was also the reason. This inconsistency casts doubt on the veracity of either explanation.

57 As for the seventh and eighth defendants, Ma and Li, I find them to be generally frank and credible. During Ma's cross-examination, he gave answers which clearly helped Clearlab, eg, he acknowledged that he used the design of a spin-cast machine ("Quad Spinner") that he did for Clearlab to design the spin-cast machines ("Lens Forming Machines") for Aquilus. Ma seemed to be more interested in giving an accurate answer than to protect his position. The only doubtful parts of his testimony concerned the setting up of Optic, and OSC's and Optic's bank account statements. When the questions involved OSC or Optic, Ma appeared reticent and uncomfortable and was eager to divert the questions to his wife, Li.

58 Like Ma, Li was generally consistent in her answers. For example, in both cross-examination and re-examination, she explained that Optic was set up in order to retain work from Clearlab because she recognised that Clearlab would terminate their relationship if it learnt that OSC was supplying machines to Aquilus, a competitor. There was no guile in this answer. She said that she herself terminated work with a vendor who did work for her competitor. On this topic, I was inclined to believe that she was telling the truth.

Breach of confidence

59 Clearlab's primary case was that Ting, David, Goh, Ng, Aquilus, Ho, Ma and Li (*ie*, all the defendants, except Central Global) were in breach of confidence because they had wrongfully used its confidential information to set up a competing business in Aquilus.

The technology

60 To set the claim of breach of confidence in context, it will be useful to describe the confidential information at the heart of this claim. It is about contact lens and manufacturing of contact lens.

61 Contact lens correct vision in the same way as conventional spectacle lens: by refracting light entering the eye in such a manner as to enable the eye to focus the light on the retina. Refraction is achieved by the curvature of the lens. There are three methods of manufacturing contact lens: lathe cutting, cast moulding and spincasting. Clearlab uses both the cast mould method as well as the spin-cast method to manufacture contact lenses. But it is mainly in respect of spincasting that the defendants were alleged to have breached their obligations of confidence to Clearlab.

62 In spincasting, a monomer (which is a liquid) is placed in a spherical indentation in a cast and rotated at a certain speed. This causes the monomer to spread outwards inside the indentation. The bottom of the monomer adopts the shape of the indentation and this is the convex surface of the lens that is eventually formed. During spinning, the monomer is cured by means of ultra-violet ("UV") light. Curing causes the monomer to polymerise, turning it into a clear solid in the shape of the contact lens. While the principle is not difficult to understand, the first hurdle is to obtain the right design for the shape of the indentation, the monomer formula and the spin rate in order to produce lens that achieve the desired optical correction. The next hurdle is to get the right processes in place with the necessary regulatory certifications to be able to manufacture contact lenses on an industrial scale and with a satisfactory level of consistency and quality.

63 The process of manufacturing spin-cast lens at Clearlab begins with the design of the lens. A trial design of the shape of the lens is carried out with SCS6. This program computes the dimensions of the dry lens when it is fed with certain parameters such as optical correction, lens diameter, *etc*.

The dimensions obtained from SCS6 are fed into the MCG, which generates a job cutting file that is loaded into an Optoform 80 machine. The Optoform 80 machine reads the file and grinds one end of an aluminium rod into the shape of the convex surface of the lens. This is the insert; it is used to form the indentation of the cast mould. The exact amount of monomer is placed in the mould and it is spun in an inert environment of nitrogen gas and cured with UV light. At this stage, the lens is dry. The dry lens is hydrated by addition of a saline solution, becoming the wet lens that is worn by the user. This wet lens is tested for optical properties. If it does not achieve the desired optical power, corrections to the lens design are made manually, using SolidWorks software to visualise the lens shape and make adjustments. Another insert is made based on this new lens shape and the process is repeated until a lens design that achieves the desired optical properties is produced. The process is repeated for the various levels of optical correction to be manufactured. These designs are then used for large scale manufacturing of the lens for sale. The production process is essentially the same with the addition of the packaging process wherein the lens are sealed in the mould cast which is also used as the packaging for the lens.

The applicable law

64 To succeed in an action for breach of confidence where no contract is involved, three elements have to be proven. They are set out by Megarry J in the seminal case of *Coco v A N Clark (Engineers) Ltd* [1969] RPC 41 ("*Coco*") at 47 and have since been cited with approval in a number of Singapore cases: see *X Pte Ltd and another v CDE* [1992] 2 SLR(R) 575 at [27] and *PH Hydraulics & Engineering Pte Ltd v Intrepid Offshore Construction Pte Ltd and another* [2012] 4 SLR 36 at [55]:

- (a) First, the information must possess the necessary quality of confidentiality.
- (b) Second, the information must have been imparted in circumstances importing an obligation of confidence.
- (c) Third, there must be an unauthorised use of that information to the detriment of the party communicating it.

65 Where there is a contract expressly or impliedly imposing an obligation of confidence, as is the case for the ex-employees as well as Ma and Li, the second element may be satisfied simply by reference to the contract.

Distinction between mere confidential information and trade secrets

66 A preliminary issue arose in respect of the character of the information sought to be protected. As mentioned above, the first element requires the information to have the necessary quality of confidentiality. It is trite that the confidentiality requirement is satisfied if the information is relatively inaccessible to the public, *ie*, it has not become public knowledge. It is not necessary to differentiate amongst the different degrees of confidentiality.

67 However, if the breach of confidence claim is made against an ex-employee, the law has taken care to distinguish between "skill and knowledge" belonging to an ex-employee and "confidential information" belonging to the ex-employer. The law recognises that in the post-employment situation, while an ex-employer's confidential information should be protected, the scope of protection should not unreasonably encroach upon the ex-employee's ability to utilise his skill and knowledge to compete with the ex-employer or to seek alternative employment in the same field. Thus, in *Ocular Sciences Ltd & anr v Aspect Vision Care Ltd & ors* [1997] RPC 289, Laddie J observed at 370–371 that, a matter of public policy, an employee should be entitled to use his skill and knowledge, whether

or not it is confidential to the employer at time of acquisition, and that if the ex-employee's right to restrain misuse of his confidential information collides with the public policy of allowing an ex-employee to freely use his acquired skill and knowledge, it is the latter which prevails. For completeness, it should also be stated that the usage of such skill and knowledge by the ex-employee may be restrained where the ex-employee is bound by a restraint of trade clause. But the claim in such an action arises from contract and not from any duty of confidentiality.

68 Apart from the category of information under "skill and knowledge", there is some indication that a further distinction should be drawn between "trade secrets" and "mere confidential information" (ie, confidential information of a lesser degree of confidentiality than trade secrets). In *Faccenda Chicken Ltd v Fowler and others* [1987] 1 Ch 117 ("*Faccenda Chicken (CA)*"), there is a suggestion that an express covenant is not capable of restraining an ex-employee from using confidential information which falls short of a trade secret. This has significant implications for the parties as it means that Clearlab cannot protect its mere confidential information (as opposed to trade secrets) from further use or disclosure by the ex-employees.

69 Before addressing the parties' submissions on this issue, it is apposite to examine the decision in *Faccenda Chicken (CA)*. The brief facts are as follows. A number of employees left the plaintiff company and served a competing business in selling fresh chickens. None of them were subject to an express restrictive stipulation. The case put forward by the plaintiff there was that the defendants had wrongfully used its confidential sales information, which consisted of the names and addresses of customers, the most convenient routes to be taken to reach the individual customers, the usual requirements of individual customers, the days of the week and times of day when deliveries were made to individual customers, and the prices charged to individual customers. At first instance, Goulding J treated the sales information as falling within the second category of information, described as "which once learned necessarily remains in the servant's head and becomes part of his skill and knowledge applied in the course of his master's business"; the first category, in comparison, relates to non-confidential information and, the third category relates to "trade secrets so confidential that ... they cannot lawfully be used for anyone's benefit but the masters's": *Faccenda Chicken Ltd v Fowler and others* [1984] ICR 589 ("*Faccenda Chicken (Ch)*") at 599C and 600D. In respect of the second category of information, Goulding J also held that it was not protectable after termination of employment unless it was the subject of a valid restraint of trade clause.

70 On appeal, Neill LJ disagreed with the view that an express restrictive covenant may prevent an ex-employee from using the second category of information, stating (at 137F):

We must therefore express our respectful disagreement with the passage in Goulding J.'s judgment ... where he suggested that an employer can protect the use of information in his second category, even though it does not include either a trade secret or its equivalent, by means of a restrictive covenant.

This is strictly *obiter*, as the *ratio decidendi* in the case was that the implied post-employment obligation of confidence owed by the former employees was restricted to information that is invested with a sufficient degree of confidentiality to render it a trade secret or its equivalent; accordingly, the appeal was dismissed because neither the sales information as a whole nor the information about the prices by itself fell within that class of information.

71 What is of key concern in the present proceedings is the *obiter dictum*, which seems to suggest that only trade secrets can justifiably be restrained from use post-employment. It was briefly considered by the Court of Appeal in *Man Financial (S) Pte Ltd (formerly known as E D & F Man International (S) Pte Ltd) v Wong Bark Chuan David* [2008] 1 SLR(R) 663 at [86]:

The court in *Faccenda Chicken* further held (*per* Neill LJ at 137) that even the use of an *express* covenant to protect confidential information falling short of a trade secret *after* the contract of employment had come to an end was *not* permitted. Subsequent (and more recent) authorities have cast doubt on this particular proposition ... In Singapore, there has been no detailed analysis of the difference in views just outlined. The answer may well lie in the *approach* that is adopted. If one is of the view that full rein should be given to the concept of freedom of contract, an express (as opposed to an implied) covenant ought to be held to be sufficient to prevent either the disclosure or use of the confidential information. If, on the other hand, one adopts the view that it is the *status* of the information concerned that is the critical factor, then the use or disclosure of such information should be allowed after the employment contract comes to an end, as that is when the duty of fidelity owed by the employee to his or her employer simultaneously terminates as well. [emphasis in original]

72 I will add that the answer may also well lie in the notion of trade secret as applied in *Faccenda Chicken* (CA). It was observed by Campbell JA in *Del Casale & ors v Artedomus (Aust) Pty Limited* [2007] NSWCA 172 at [108] and [128] that the expression "trade secret" has been used in different contexts with different imports. It is therefore necessary to decipher the purpose for which it is being used, on the particular occasion when it is being used.

73 In the *ratio decidendi* of *Faccenda Chicken* (CA), the notion of trade secret was used as an indicator of whether a term of contract can be implied to restrain an ex-employee from using the information at the end of the employment. The holding is that an ex-employee's implied obligation only goes as far as to protect trade secrets, so while there is a broad range of information which is confidential to the ex-employer, only a narrow range of information which has the requisite high degree of confidentiality as to constitute trade secrets will in fact be protected in contract.

74 In the *obiter dictum*, the notion of trade secret was used as a guide to ascertain the validity of a restrictive covenant. In this separate context, it seems to have a different meaning. Just before disagreeing with Gouling J, Neill LJ in *Faccenda Chicken* (CA) cited *Herbert Morris, Limited v Saxelby* [1916] 1 AC 688 ("*Herbert Morris*") for an example that a restrictive covenant will not be upheld on the basis of the status of the information, unless it can be regarded as a trade secret or its equivalent. Importantly, Lord Parker of Waddington in *Herbert Morris*, when considering the validity of a restrictive covenant, said at 709:

Wherever such covenants have been upheld it has been on the ground, *not that the servant or apprentice would, by reason of his employment or training, obtain the skill and knowledge necessary to equip him as a possible competitor in the trade*, but that he might obtain such personal knowledge of and influence over the customers of his employer, or such an acquaintance with his employer's trade secrets as would enable him, if competition were allowed, to take advantage of his employer's trade connection or utilize information confidentially obtained. [emphasis added]

It seems to me that that "trade secrets", as understood in the second context, is used as a juxtaposition to "skill and knowledge". Restraint of the latter was unjustifiable because it unduly constrains competition and interferes with an ex-employee's right to depend on it to earn a living. In balancing between the interests of the ex-employer in protecting confidential information and the interests of the ex-employee to use his skill and knowledge, the law has come down on the side of the ex-employee. This is less of a question on the degree of confidentiality necessary to grant protection and more of a question whether a restraint of trade is reasonable and therefore justified.

75 Understood in this way, *Faccenda Chicken* (CA) is silent on whether an express restrictive

covenant may legitimately cover confidential information which is not a trade secret. In my view, parties should be free to agree to protect the confidential information of the ex-employer, subject always to the restraint of trade doctrine. It seems to me implausible that the agreement should collapse at some point along the spectrum of confidentiality, in spite of parties taking the trouble to define and agree what confidential information they would protect. On the other hand, it is important to recognise that confidential information could form part of an ex-employee's general skill or knowledge during the course of employment. To the extent that the restraint against the use of such knowledge and skill is unreasonable, it could be struck down. This could depend on the nature of the information and how it is being exploited in particular circumstances. Thus, all things considered, there is an interplay between the freedom of contract and the status of the information. While the status of confidential information generally does not prevent it from being protected as a matter of agreement, it might, in the appropriate cases, affect the assessment of the reasonableness of the restraint.

76 I turn, then, to the parties' submissions on whether there is a distinction between mere confidential information and trade secrets. Clearlab contended there need not be one, because mere confidential information is protectable by an express confidentiality clause. On the facts of the case, an express confidentiality clause is imposed against the ex-employees in their employment contracts. Accordingly, it is said that all of Clearlab's confidential information is protected.

77 The defendants' response, in most parts, did not disagree with Clearlab's submission. Their sole objection was to the possible restraint against the use of the ex-employees' skill and knowledge as part of the confidentiality clause. The defendants submitted that the skill and knowledge acquired by the ex-employees did not constitute a legitimate proprietary interest that Clearlab could protect and furthermore, there is a strong policy reason that an ex-employee should be free to put his skill and knowledge to use in the most market-efficient manner. This proposition is echoed in the case of *Ixora Trading Incorporated and another v Jones and another* [1990] 1 FSR 251. At 258–259, Mummery J held that an express covenant may protect against post-employment use of confidential information other than trade secrets, but it would be unenforceable insofar as the restraint is against information that has become part of the ex-employee's skill and knowledge or is otherwise too wide.

78 In my view, both parties' submissions are consistent with what I had set out above: that a line needs to be drawn between confidential information protected by contract and skill and knowledge gained in the course of employment. Where they are coterminous, the courts have been disinclined to enforce the agreement. But if it is merely a question of the degree of confidentiality of the information, there is no bar against parties agreeing to protect their confidential information. So long as the information sought to be protected is confidential to one party, I do not see how any policy reason why the agreement that such information shall remain confidential should not be enforced.

79 Upon a reading of the express confidentiality clause that bound the ex-employees in this case, I agree with Clearlab that all of its confidential information is protected. The clause covers:

- (i) ***information belonging to, acquired by, relating to the Group or any Group Company, or which is otherwise proprietary to the Group or any Group Company which is marked confidential and/or which he/she is told or ought reasonably to know is confidential, and***
- (ii) ***other information proprietary to the Group or any Group Company, including, without limitation, information concerning the operation and methodology of the Company Business as the same is now and hereafter conducted, trade secrets, know-how, processes, research activities, inventions, intellectual property rights, patent and***

trademark applications, **formulas, designs, specifications, drawings, data and manuals, price, customer and supplier lists and data, customer data-base**, pricing and marketing plans, policies and strategies, **details of customer and supplier relationships**, details of prospective customers, and of suppliers, agents and consultants, and their respective terms of business with the Group or any Group Company, operations methods, sales techniques (including marketing policies and strategies, and sales forecasts), proposals and/or plans relating to business acquisition, or to any proposed expansion or contraction of any business activity, details of existing and prospective Group or any Group Company employees or new personnel acquisition plans (including the terms of their employment or proposed employment and other benefits paid or to be paid to them), web-site, Internet addresses, e-mail addresses and domain names, including all software, information and processes necessary to operate the Group's or any of the Group Company's web-site, financial information (including accounting and taxation records and results of the Group or any Group Company's performance, save to the extent that these are included in published accounts), **any information which has been acquired or received by the Group or any Group Company from any person in confidence, including from their respective shareholders, officers, employees, clients/customers, suppliers, distributors and agents, and all other confidential information with respect to the Group or any Group Company (collectively, "Proprietary Information")**. [\[note: 23\]](#)

[emphasis in original]

80 As such, for the purposes of this suit, there is no need to distinguish between Clearlab's trade secrets and mere confidential information. It is an entirely separate question whether any such information should be regarded as part of the ex-employees' skill and knowledge which they are entitled to use and which Clearlab may not protect for its own. This question has to be addressed in relation to each specific information that is alleged to have been incorporated as part of any skill and knowledge acquired in the course of employment.

Standing

81 There is one final preliminary issue to be dealt with: that of Clearlab's standing to bring the action. The general assertion made by all the defendants is that Clearlab lacked standing to sue for breach of confidence because it had not acquired the proprietary information upon which it is suing.

Spincasting technology, design of the original Dual Spinner and SCS6

82 I will first deal with the issue of standing in relation to the breach of confidence claims made against Ting, David, Goh, Ng, Ho and Aquilus. There were three main arguments:

- (a) It was unclear if confidential information in the spincasting technology was ever purchased from Clearlab International Pte Ltd by Clearlab because there was no express term for it in the S&P Agreement.
- (b) The original Dual Spinners were supplied by Barr & Paatz to Clearlab International Pte Ltd prior to their being purchased by Clearlab, and there is no evidence that the IP rights in the Dual Spinners were ever transferred to Clearlab International Pte Ltd.
- (c) The SCS6 program was written by a Don Noack from Capriconia Contact Lens as a favour or on an *ex gratia* basis and the copyright in SCS6 was never assigned to Clearlab, therefore, Clearlab does not legally own SCS6.

83 These arguments seem to say that Clearlab lacked the requisite property rights (whether in copyright or patent) to sue the defendants. For example, the defendants argued that copyright in the SCS6 program could not have been assigned to Clearlab because the transfer of the SCS6 program was not evidenced in writing in accordance with s 194 of the Copyright Act (Cap 63, Rev Ed 2006). Insofar as arguments of this nature are being made, they are irrelevant because Clearlab was not asserting a right in copyright or patent. What it claimed was a breach of confidence by the defendants.

84 That said, if the arguments are that Clearlab lacked standing to sue upon the confidential information because "ownership" of the requisite confidential information was not transferred to Clearlab, then these arguments, if made out, are a defence against Clearlab's claim of breach of confidence.

(1) "Ownership" of confidential information

85 I preface the discussion by stating that information, in itself, is not property. It does not give rise to property rights or rights *in rem* that can be owned or said to belong to a person. Rather, confidential information is protectable if there is a basis for importing an obligation upon a person not to use or disclose it. The basis could lie in equity (which was once described as "the notion of an obligation of conscience arising from the circumstances in or through which the information was communicated or obtained": *Moorgate Tobacco Co Limited v Philip Morris Limited and another (No 2)* (1984) 156 CLR 414 ("*Moorgate*") at 438). It could also arise in contract (see, *eg*, the confidentiality clauses in the ex-employees' contract with Clearlab).

86 Language relating to "ownership", such as "own", "property" and "belong" is sometimes used metaphorically to denote that a person has an interest in protecting the confidential information that is enforceable by an action for breach of confidence. I have noticed that the parties have used words like "own", "property" and "belong" in the metaphorical sense, and thus any reference to their submissions using these words will also be in that sense.

(2) Circumstances of the transfer of information

87 In my view, each of the three arguments fails because the requisite confidential information was transferred to Clearlab with the understanding that the confidential information could not be further used or disclosed to a third party without Clearlab's consent. In those circumstances, I find that Clearlab has standing to sue for breach of confidence. Let me explain.

88 In relation to argument (a) at [82(a)] above, the critical facts are cl 1(3) and Exhibit A-5 of the S&P Agreement. Clause 1(3) provides that Clearlab acquires a 50% undivided tenancy in common interest in the "Dual-Use Know-How" as described in Exhibit A-5. The other 50% was bought by Menicon Co Ltd. Specifics of "Dual-Use Know-How" are listed in Exhibit A-5. Briefly, they are "the know-how, information, data and proprietary rights ... which is commercially used to manufacture spin-cast daily lenses". On a plain reading, the agreement contemplates that Clearlab and Menicon Co Ltd will exclusively possess confidential information about spincasting technology transferred from Clearlab International Pte Ltd. Subsequent to the purchase, the information was validly in the custody of Clearlab and had been treated by Clearlab as confidential. I do not see why it would not fall within the range of protection accorded by the law of confidence.

89 Argument (b) at [82(b)] above, which concerned Clearlab's interest in the confidential information in the original Dual Spinner, is more nuanced. It appears to be this: even if the S&P Agreement purported to transfer the confidential information in the original Dual Spinner to Clearlab,

the information could not have been transferred from Clearlab International Pte Ltd to Clearlab, because Barr & Paatz, the maker of the Dual Spinners, had not transferred the information to Clearlab International Pte Ltd. This presumes that the confidential information in the Dual Spinner resides with the maker and not the party which commissioned it. However, given the gap in evidence on the transaction for the supply of the original Dual Spinners, this appeared to be an unfounded presumption. The fact that Barr & Paatz had made the Dual Spinners does not suffice to show that it, and not Clearlab International Pte Ltd, had designed the Dual Spinners, or that (if it had designed the Dual Spinners) it had not sold the design to Clearlab International Pte Ltd. On the contrary, the words of the S&P Agreement suggest that Clearlab International Pte Ltd owned the rights to the design of Dual Spinner because the design of the Dual Spinner is included in the list of confidential information in Exhibit A-5 to be sold to Clearlab and Menicon Co Ltd.

90 Since there was insufficient factual basis for the defendants to contradict the S&P Agreement, I find that Clearlab had acquired the confidential information in the Dual Spinner.

91 As will be seen shortly, the same question arose as to the confidential information in Ma's work on the Dual Spinner and the Quad Spinner. Again, it is a fact-centric enquiry. Whether Clearlab has come to own the rights in the confidential information arising from Ma's work will be determined by the particular facts of the case.

92 As for argument (c) at [82(c)] above, there is clearly shared interest between Clearlab and Don Noack to protect the confidential information in SCS6. The program was given to Clearlab for its use. It has hence been kept confidential by Clearlab. There is no basis to hold that Clearlab was not entitled to protect the program which had been improperly taken by one of the defendants, in concert with some of the others, who had access to the program by virtue of his trusted position in Clearlab.

93 In summary, Clearlab was entitled to enforce its contractual right of confidentiality in respect of the spincasting technology, the original Dual Spinner and the SCS6 program. There is therefore no issue of standing as against Ting, David, Goh, Ng, Ho and Aquilus.

Design of the Quad Spinner and modifications to the Dual Spinner

94 I will now consider the issue of standing in relation to the breach of confidence claim made against Ma and Li. This issue arises because they asserted that OSC retained the rights over the information in the work that Ma did for Clearlab. I will first outline the extent of Ma's work for Clearlab.

95 In July 2008, Ting had just joined Clearlab as its Head of Engineering and Technology Development and he had discovered that the spin-cast machines (also known as "Dual Spinners") in Clearlab required repair or modification. At that time, Ma was employed as a senior electrical control engineer in Sys-mac Automation Engineering Pte Ltd ("Sysmac"). Ma received the assignment to work on the Dual Spinners. But Ma soon left Sysmac, so his ongoing work with the Dual Spinners was transferred to a new partnership called SC-Tech Automation and Engineering that he had set up with Wu Zhigang in late 2008. This partnership did not last long. In 2009, Ma set up another partnership called OSC with his wife, Li. His work with the Dual Spinners was transferred once more, this time to OSC.

96 After Ma's work on Dual Spinners was completed, he was approached by Ting in late 2009 to design and fabricate a new spin-cast machine. The original proposal was that the machine should have eight to ten spin tubes to maximise output. After Ma's initial studies and research, Ma recommended that each machine should only house a maximum of four spin tubes. The recommendation was accepted by Clearlab. Ma proceeded to construct the Quad Spinner, which he

completed and delivered to Clearlab in December 2010.

97 Sometime in March 2011, Ho contacted Ma for a quotation for six units of spin-cast machines. These machines were named "Lens Forming Machines". All six units were delivered to Aquilus' premises in August 2011. Now, Clearlab claimed that the Lens Forming Machines supplied to Aquilus were essentially the same as the Quad Spinner that Clearlab had commissioned OSC to build for Clearlab. The features of the Quad Spinner were allegedly replicated in the Lens Forming Machine in breach of Ma's duty not to use Clearlab's confidential information acquired by Ma.

98 There is some logical basis for Clearlab to suppose that Ma had used what he learned from working on Clearlab's spin-cast machines in his work for Aquilus. Between 2008 to 2010, Ma was privy to information about Clearlab's Dual Spinners (that he was charged with repairing and modifying) and Clearlab's Quad Spinner (that he was commissioned to construct). Therefore, in 2011, it was possible that he had misused such information to make the Aquilus' Lens Forming Machines.

99 But to determine if there is a breach of confidence, one must first determine if Clearlab had standing to sue upon the information allegedly used to make the Lens Forming Machine. There are two types of information here. The first type consists of information that originated from Ma. This relates to Ma's design of Quad Spinner and the modifications he made to Dual Spinner. There is an issue with standing with this type of information because the parties disputed its ownership: Clearlab submitted that the information residing in Ma's work belonged to Clearlab, whereas Ma submitted that it belonged to Ma and/or OSC. If Ma was correct, this would eliminate Clearlab's claim because only the person who is entitled to the confidence had the standing to sue for breach of confidence: *Fraser v Evans and others* [1969] 1 QB 349 at 361 per Lord Denning MR. In other words, if Clearlab cannot establish that it was owed a duty of confidence from Ma and Li in respect of such information, it would not have standing to assert a claim of confidentiality over it. The second type consists of information that originated from Clearlab. This includes information from the unmodified Dual Spinner that was used or incorporated in the Lens Forming Machine as well as any other information that was communicated by Clearlab to Ma. As held earlier at [89]–[90], the confidential information in the unmodified Dual Spinner did reside with Clearlab. Thus, unlike the first type, there is no issue with standing here. The main issue with this second type of information is instead about its unauthorised use. This will be addressed in a separate section.

100 Turning now to the issue regarding the ownership of the information relating to the design of Quad Spinner and the modifications to the Dual Spinner, Clearlab's fundamental submission was that the party which had commissioned and paid for a bespoke machine owned the confidential information to the exclusion to the other party which made the bespoke machine. Ma and Li, on the other hand, submitted that the commissioned party retained the confidential information in the commissioned work that was generated by him, unless it was transferred by way of an agreement (which they submitted was not the case here). In short, the parties have approached the issue from diametrically opposing positions.

(1) The legal principles

101 It is useful to examine the authorities cited by the parties.

102 Clearlab cited *Deta Nominees Pty Ltd v Viscount Plastic Products Pty Ltd* [1979] VR 167 which concerned, *inter alia*, with a breach of confidence by the defendants who were commissioned by the plaintiff to supply specially designed injection-moulded plastic drawers but had reneged on their agreement. The plaintiff was a company in the business of making and selling furniture. The managing director of the plaintiff, a Mr Felfernig, had been looking for a considerable time for a plastic drawer

suitable for his business and, having found none, was seeking to make a tool for producing the drawer. That was how the first defendant, a tooling company, came into the picture. During the discussions between Mr Felfernig and the representatives of the first defendant company, who were Mr Flood and Mr Stoffregen, Mr Felfernig referred to the drawers that he had considered but rejected: the Elmaco drawer was said to be too flimsy and the Nylex drawer too expensive. It then occurred to Mr Felfernig that features from the Nylex drawer and Elmaco drawer could be adapted to create a new drawer. Thus, at a meeting between Mr Felfernig and Mr Stoffregen, Mr Felfernig drew and described to Mr Stoffregen the drawer he envisaged and Mr Stoffregen provided some feedback, including an idea to hinge the sides of the drawer. This was followed by negotiations on the price and, in the midst of negotiations, Mr Felfernig stated the precise metric dimensions he wished for the drawer.

103 It is readily apparent that the plaintiff contributed most of the information required to make the drawer and the defendants were only responsible for the idea to use a hinge. The court held that all information relating to the drawer resided with the plaintiff. Fullagar J said (at 194):

Returning to the present case, it is in my opinion clear that all the information, comprising the configuration and mode of manufacture of the drawer of the present case, was in the eyes of equity the property of the plaintiff company, and any reasonable man in the position of Messrs. Stoffregen and Flood and the defendants must have realized that this was so. It is quite true that the defendants contributed the important, indeed in one sense vital, feature of the final product of the injection-moulding process being “hinged” so as to enable the final configuration to be snapped into place manually. But this is so only in a sense. There is no reason to suspect that another designer could not have designed a method of making the plastic drawer, so far as envisaged by Mr. Felfernig alone, without using the hinge. And [a furniture catalogue] suggests that this was, after all, an ingenious “workshop improvement”. *But the important fact is that the defendants were employed by the plaintiff for the very purpose of contributing, for the benefit of the plaintiff, a solution to the problem of design which was in fact solved by this contribution of the hinge. For full consideration the defendants have, as it were, provided an accretion to the property of the plaintiff, having been employed for the very purpose of providing just such an accretion. In my opinion the defendants were clearly obliged in equity not to use this property of the plaintiff (this information) for any purpose other than that for which it was conveyed, without the consent of the plaintiff.* [emphasis added]

104 Another case that was cited in support of Clearlab’s claim was *Vestergaard Frandsen A/S and others v Bestnet Europe Limited and others* [2009] EWHC 657 (Ch) (“*Vestergaard*”). It also involved the question of whether work created for the benefit of the plaintiffs was confidential to the plaintiffs. The plaintiffs in that case were manufacturers of insecticidal mosquito nets. Dr Skovmand was a consultant whom they have engaged to develop a new kind of polyethylene net. Although there was no written agreement between the plaintiffs and Dr Skovmand, it was accepted that there was an oral contract. In 2004, two employees of the plaintiffs left to set up a competing business. In 2005, Dr Skovmand followed suit and resigned from his consultancy to assist the two former employees with their development of polyethylene net. There was a finding of fact that Dr Skovmand devised the initial recipes for the polyethylene net for the competing business based on information that he had recorded in a database whilst working for the plaintiffs. This led Arnold J to consider whether Dr Skovmand owed an obligation of confidence to the plaintiffs in respect of the information in the database. He answered it in the affirmative. There are three separate grounds for holding that information arising out of the work that the plaintiffs gave Dr Skovmand would be confidential to the plaintiff. First, it was an express term of Dr Skovmand’s contract. Second, even if there was no express term, it was also an implied term of the contract. Third, even if there was no contract, Dr Skovmand was subject to an equitable obligation on the same terms.

105 The court's reasoning is largely contained in [631]–[640]. It is illustrative of the factors that the court will take into account when deciding to whom an obligation of confidence would be due. On first blush, however, I would say that there are substantial divergences in the factual matrix of *Vestergaard* and the present case which would make the reasoning in *Vestergaard* not entirely applicable to the present case. Let me first state the similarities, which are that both Dr Skovmand and Ma were paid to develop a new product, and that the payment would cover raw materials and the tests required to obtain the final product. The chief dissimilarities are:

(a) The relationship between the plaintiff(s) and the person commissioned to do the work. In *Vestergaard*, it was decided that Dr Skovmand's status was close to that of a senior employee: at [632]. This might partly have to do with the fact that Dr Skovmand was engaged for a relatively long period of time, from 1998 to 2005. In contrast, Ma was always viewed as an independent contractor. This is implicit in para 134 of the Statement of Claim (Amendment No 2) ("SOC") where Clearlab complained about Ting outsourcing the work on the Quad Spinner to OSC even though Clearlab had (or so it asserted) the resources to do some of the work internally.

(b) Input from other sources. There was an observation that Dr Skovmand had not carried out all of the development work or given all the advice for the development of the products. In fact, much of the work in that case was done by the plaintiff's employees or other contractors and some advice was obtained from third party sources: at [633]–[634]. The dynamics were different in the present case because Ma worked independently. From the evidence before me, Clearlab would inform Ma of its requirements or the problems it required fixing, and Ma would work at creating the solution. As elaborated at [213] below, there was some communication of information, in that Clearlab allowed Ma to access its Dual Spinners and Ting highlighted to Ma some features of the Quad Spinner that Clearlab wanted to have, but otherwise, Ma was left on his own to do the work.

(c) Payment for the resultant information. In *Vestergaard*, the plaintiffs paid for the compilation of the database itself: at [637]. It is not so clear, in the present case, that Ma was paid for the information relating to the design of the Quad Spinner or the modifications to the Dual Spinners, in addition to the physical work that he had done for Clearlab. The dispute as to the terms of their supply agreement will be addressed later at [121]–[123].

(d) The understanding struck between parties as to whom the information "belonged" to. The intention of parties as regards the information created during Dr Skovmand's course of work for the plaintiffs was made manifest in a number of instances. Before Dr Skovmand left, he handed over the database to the plaintiffs. He also recognised in his goodbye letter that he should only use the information in the copy he retained for a limited purpose: at [638]. Further, throughout his consultancy with the plaintiffs, it was clearly understood that the inventions made by Dr Skovmand belonged to the plaintiffs, in the sense that the plaintiffs had the right to patent his inventions and own those patents: at [639]. Thus, either during or after the termination of his relationship with the plaintiffs, it could not have been intended by the parties that Dr Skovmand would be able to exploit the information he created for the plaintiffs: at [640]. Conversely, in the present case, Ma had not delivered his drawings of the Quad Spinner and the Dual Spinner to Clearlab. Neither were there words or conduct that indicated that Ma could not himself use the information that he generated in making the Quad Spinner or modifying the Dual Spinners. Thus, it was not so clear that parties intended for Clearlab to "own" the information arising out of Ma's work (as opposed to the physical machines). This will be addressed in fuller detail, also at [121]–[123].

106 There is one other authority relevant to the issue of whom confidential information in a

commissioned work resided with. It is the case of *Invenpro (M) Sdn Bhd v JCS Automation Pte Ltd and another* [2014] 2 SLR 1045 ("*Invenpro*"). Ma and Li cited this case for its holding that the commissioned party retained the confidential information in the commissioned work. It bucked the trend in the earlier two cases which decided that the confidential information in the commissioned work resided with commissioning party. The differences in the holding, however, appear to arise from different facts than from a controversy in the legal principles.

107 In *Invenpro*, Komag (the commissioning party and also the defendant) approached Invenpro (the commissioned party and also the plaintiff) to manufacture a batch scrubber for its production line. Invenpro created an improved version of the existing batch scrubber, called "2006 Improved Komag Batch Scrubber". The defendants were later engaged by Komag to modify its batch scrubber cleaning system and they were alleged to have copied confidential features of the 2006 Improved Komag Batch Scrubber to produce their own batch scrubbers. The rights in relation to the confidential information in these features thus become important as Invenpro would need to, at the threshold, establish that confidential information in the 2006 Improved Komag Batch Scrubber still resided with Invenpro in order to have the *locus standi* to assert a claim of breach of confidentiality against the defendants.

108 George Wei JC observed, at [150], that "the question as to who owns the IP rights in the product/solution (if any) depends on a *close examination of the relationship between the manufacturer/inventor and the customer. In most cases, this will depend largely on the terms of the contract that has been entered into.*" [emphasis added]

109 What is peculiar about the case is that there were two clauses relating to the rights in the commissioned work (*ie*, the 2006 Improved Komag Batch Scrubber) that were apparently superseded by a non-disclosure agreement. One clause, headed "Non-Disclosure of Confidential Matter", stated that all data provided by the commissioning party "shall remain [its] property regardless whether they have been modified by [the commissioned party]". The other clause, headed "Patent Licence", granted to the commissioning party an "irrevocable, nonexclusive, royalty free licence and licence" in respect of "any and all inventions and discoveries" that arose from the contract that the commissioned party was to perform. The "superseding" non-disclosure agreement had no equivalent clause.

110 The deliberate reference by the parties to the non-disclosure agreement "superseding" the two clauses led Wei JC to find that the commissioned party "was not willing to part with any IP rights that they might own". The non-disclosure agreement (which may or may not be valid) laid down "what the parties thought should be the governing position between them – that parties would own their own IP rights in respect of any collaboration": at [155]. This seemed to be the decisive factor for holding that the confidential information in the 2006 Improved Komag Batch Scrubber still belonged to Invenpro. Even if it was Komag that had commissioned Invenpro to produce the 2006 Improved Komag Batch Scrubber and had identified most of the issues and problems that Invenpro eventually overcame with the 2006 Improved Komag Batch Scrubber, it did not automatically mean that the confidential information in the 2006 Improved Komag Batch Scrubber vested in Komag. At the end of the day, the understanding between parties was that each party would respect and safeguard the other party's confidential information. As such, Invenpro "owned" the confidential information in the commissioned work and had the *locus standi* to sue for breach of confidence.

111 It seems to me that the principle involved is this: confidential information arising out of a commissioned work can equally reside with the commissioned party or the commissioning party. There is neither a presumption that the confidential information is retained by the commissioned party nor a presumption that the commissioning party obtains the confidential information.

112 On the question of which party is bound to keep the information confidential, much depends on the facts of the case. What is known from the three cases is that the basis for imposing a duty of confidence on one party can lie in contract or in equity. As a matter of contract, there may be an express or implied term which states that one party is to keep the information arising in the commissioned work confidential to the other party. The rights of the parties in relation to the confidential information would obviously be governed by their contract and the contract will usually be determinative of the issue. Where there is no contract, then there is different question of whether one party is subject to an equitable obligation to keep the information confidential to the other party. This may involve a considerably more difficult task of fact-finding. Some of the facts considered by the courts are the proportion of the input by each party to the commissioned work, and the understanding between parties (short of a binding agreement) as to the confidential information in the commissioned work. Ultimately, it must be shown that a reasonable man, given the circumstances of the case, would recognise the information as being confidential to one party and not the other, such that equity would intervene and impose a duty of confidence even in the absence of a contractual provision.

(2) The facts specific to this case

113 In the present case, it is necessary to consider the working relationship between Clearlab and Ma in detail. There is a confidentiality agreement between Clearlab and OSC to which I turn to determine if parties had specifically agreed on how they will deal with the confidential information arising from the Ma's work.

(A) The confidentiality agreement

114 The confidentiality agreement entered into between Clearlab and OSC [\[note: 24\]](#) was stated to be effective from 15 October 2009 and signed by parties at a time when Ma was being asked to work on the Dual Spinners. Clearlab submitted that the confidentiality agreement only protected Clearlab's confidential information whereas Ma asserted that there were mutual obligations to protect each other's confidential information. The salient terms of the agreement are as follows:

3. **"Recipient"** means the Party receiving TRADE SECRETS and PROPRIETARY INFORMATION under this Agreement and "Disclosing Party" means that Party who discloses TRADE SECRETS and PROPRIETARY INFORMATION.

...

6. The Recipient agrees (i) to hold the Disclosing Party's TRADE SECRETS and PROPRIETARY INFORMATION in strict confidence and to take all necessary precautions to protect such TRADE SECRETS and PROPRIETARY INFORMATION, including without limitation, all precautions it will employ with respect to its own TRADE SECRETS and PROPRIETARY INFORMATION; (ii) not to at any time copy, reproduce, decompile, reverse-engineer, sell, license, assign, market, transfer or otherwise deal with the Disclosing Party's TRADE SECRETS and PROPRIETARY INFORMATION; and (iii) not to at any time directly or indirectly use, disclose, divulge to any third party (except that such third party is a parent or any related company of the Recipient) the Disclosing Party's TRADE SECRETS and PROPRIETARY INFORMATION, except for the Purpose and with the prior consent of the Disclosing Party; and (iv) not to use any TRADE SECRETS and PROPRIETARY INFORMATION to compete or obtain advantage over Disclosing Party in any commercial or non-commercial activity which may be comparable to the commercial activity contemplated by the Parties in connection with the Purpose of the Agreement. ...

[emphasis in original]

115 A literal reading of the clauses supports Ma's contention that there were mutual obligations of confidence imposed by the agreement. The terms "Disclosing Party" and "Recipient" could refer to either Clearlab or OSC. Thus, the meaning of cll 3 and 6 of the confidentiality agreement between Clearlab and OSC, taken jointly, was that either party's confidential information was protected from disclosure or use by the other party. It did not contemplate that only Clearlab's confidential information was to be protected.

116 Clearlab, however, rejected this interpretation and submitted that the recitals made it clear that Clearlab wished to protect the trade secrets and confidential information that it relied upon to manufacture and sell contact lenses. I did not see how this assisted Clearlab as this position was not borne out in the wording of the agreement. Recital A merely stated: "WHEREAS CLEARLAB carries on the business of researching, developing and designing contact lenses and contact lens products for eventual manufacture and sales using CLEARLAB's trade secrets and PROPRIETARY information". At most it emphasised the importance of protecting Clearlab's confidential information. Further, OSC's obligation to protect Clearlab's confidential information was not inconsistent with Clearlab having a corresponding obligation to also protect OSC's confidential information.

117 Clearlab advanced another point, which was that parties could not have contemplated protecting OSC's confidential information at the time of signing the confidentiality agreement because no confidential information could have been shared by OSC to Clearlab. As of 15 October 2009, OSC was engaged to work on the Dual Spinners and, in that context, Clearlab submitted that there was only disclosure of Clearlab's confidential information in the Dual Spinner to OSC but no disclosure of any information by OSC to Clearlab. However, Ma had made a number of modifications to the Dual Spinner and these modifications could arguably be protected as confidential information. In any event, the words of the agreement clearly provided for mutual obligations of confidence. Crucially, it was not an agreement drafted specially for OSC but a standard non-disclosure agreement for all external vendors of Clearlab. Thus, given the clear words and the circumstances, it does not behove Clearlab to argue that the agreement preceded any contemplation that there could be a flow of confidential information from OSC to Clearlab.

118 In summary, as a matter of construction of cll 3 and 6, each party was obliged to protect the other party's confidential information and each party retained the right to its own confidential information. The necessary implication of this mutuality of obligation was that OSC's confidential information arising from Ma's work (whether on the Dual Spinners or the Quad Spinner) resided with OSC and not Clearlab. Consequently, Clearlab was not entitled to restrain any of the defendants from using and/or disclosing the information that Ma had generated in his work, *ie*, his design of the Quad Spinner and his modifications to the Dual Spinner.

(B) The supply agreement

119 Given that parties had a comprehensive agreement on how they were prepared to deal with their rights in relation to all confidential information that arose from the transactions between them, it would not be necessary for me to expound on their rights specifically in relation to Ma's design of the Quad Spinner. Nevertheless, I shall briefly deal with Ma's and Li's contention that (even without the confidentiality agreement) parties had always understood that design of the Quad Spinner was to be retained by OSC.

120 This issue concerned the supply agreement for the Quad Spinner, which is evidenced by the quotation from OSC and purchase order from Clearlab. [\[note: 25\]](#) For the price of \$22,600, OSC was to

design and fabricate a Quad Spinner for Clearlab. The requirements for the Quad Spinner were succinctly set out in the quotation. [\[note: 26\]](#)

121 There were a number of factors indicating that OSC was only selling the physical machine and not the design. They buttressed my earlier conclusion that confidential information arising from Ma's work was retained by OSC. Firstly, the price charged for the supply of the Quad Spinner was low, even for the sale of a physical machine. It was to cover budgeted costs of \$11,669.34 for raw materials, several months of work relating to testing, modifications and tuning, as well as other follow-up services. [\[note: 27\]](#) I accepted Ma's evidence that the price was negotiated down on the understanding that Clearlab would order more units of the same machine. The deal, as reflected by the low price, was that OSC would retain the design of the Quad Spinner and Clearlab would have to order more units from OSC whenever it required them. Because of economies of scale, OSC had thought that it would make more profits from selling more units to Clearlab in due course. Consistent with that belief, I observed that OSC had pragmatically ensured that it had the exclusive ability to supply additional units because it retained the mechanical drawing, pneumatic diagram, revised program logic controller diagram and electric circuit diagram of the Quad Spinner. Without these drawings and diagrams, Clearlab was incapable of replicating the Quad Spinner. [\[note: 28\]](#) It was clear that if Clearlab had wanted more units, it necessarily had to buy them from OSC.

122 Furthermore, it was not a term of the supply agreement to deliver the drawings and diagrams to Clearlab. This suggested that OSC was indeed retaining the confidential information in Ma's design of the Quad Spinner. It would be surprising for a party to have purchased the design of a machine but had chosen to forgo the design drawings, thereby precluding itself from making more machines through other parties. If Clearlab had intended to purchase the right in the design of the Quad Spinner, the delivery of the design drawings would have been included as a term in the agreement.

123 Moreover, it was not apparent from the supply agreement that the OSC was inhibited from using the design of the Quad Spinner in future projects. The plain words of the agreement merely required Ma to produce a Quad Spinner of certain specifications. It did not follow that Clearlab had any rights to the information concerning the design of the Quad Spinner.

124 Therefore, on the basis of the supply agreement, it could also be said that the design of the Quad Spinner was retained by OSC and that Clearlab lacked standing to pursue a claim of confidentiality over the design of the Quad Spinner.

First element: Quality of confidence

125 I turn to the individual elements of a breach of confidence action. First and foremost, the information, which is the subject of Clearlab's claim, must possess the necessary quality of confidence.

126 The scope of such allegedly confidential information is set out at Annex 1 to Clearlab's SOC ("Annex 1"). The entire list of items spans four pages and 40 separate categories. At the end of the trial, Clearlab maintained that all of the items in Annex 1 were confidential, but elaborated that there were some among them which were highly confidential. For those items that Clearlab considered to be highly confidential information, there was a separate list set out at Annex A of Clearlab's closing submissions ("Annex A"). In short, Annex A is a subset of Annex 1, and it is a selection of the highly confidential information in Annex 1.

127 In my view, the way in which certain items were excluded from Annex A was revealing. It

appeared to be an acknowledgment that the items excluded from Annex A were unsupportable. I give a few examples below:

(a) Item 32 of Annex 1: "the Plaintiff's business strategy to tap into underdeveloped markets in Asia like, China, Vietnam, Indonesia and Philippines". I had difficulty in ascertaining what item 32 was, for it was stated in very general terms, and unsubstantiated with any evidence. That being so, I cannot see that it contains confidential information.

(b) Item 3 of Annex 1: "the use of a Hamilton Pump to inject the precise amount of Lens Monomer into the Cast before spinning". On the evidence before me, this was common industry knowledge. When pressed, Dr Park conceded that "if someone want to have precise dosing ... one can actually ... try to think about this Hamilton Pump series for dosing." [\[note: 29\]](#) What Dr Park said was correct, because the use of a Hamilton Pump to dispense precise amounts of monomer to make contact lenses is in fact publicised in its sales brochure. [\[note: 30\]](#)

(c) Item 16 of Annex 1: the use of "clear plastic Casts to allow greater penetration of ultraviolet light in order so as to shorten the curing time of the lenses". This information is found in several patents. US Patent No 6,444,145 B1 recommends use of a mould that is "sufficiently transparent to ultra-violet light to allow irradiation therethrough to promote polymerization of a contact lens material". [\[note: 31\]](#) US Patent No 4,422,984 similarly mentions that the use of "transparent outer molds and ultraviolet light may reduce the time required for polymerization". [\[note: 32\]](#)

(d) Item 19 of Annex 1: the use of "only one (1) Cast throughout the whole process and having it form the lens packaging by sealing the top with alumin[i]um foil". The very same step to streamline the manufacturing process has been suggested in International Patent Application PCT/US2004/031651. It states that "the mould is used as part of the packaging, and no machining or external modifications are made to the lens after spinning". [\[note: 33\]](#) Thus, item 19 does not encompass any information that is not already disclosed in the public domain.

128 To state the point succinctly, there was simply a lack of evidence to show why the items in Annex 1 (other than those in Annex A) were confidential. As such, this part of Clearlab's claims must be dismissed for lack of proof of their confidentiality.

129 It follows that Clearlab's breach of confidence action is confined to the items listed in Annex A. The items in Annex A comprises the following categories:

- (a) Profiling software – spincastsphere6 and torsing software
- (b) Parameter settings for Optoform 80 machine
- (c) Insert designs
- (d) Mould base designs
- (e) Lens formulations for its full range of products
- (f) Combination of dosage, spin-speed and lens dimension for full range of spin-cast lenses
- (g) Bespoke equipment used in the manufacture of spin-cast lenses, namely:

- (i) Dual Spinner
- (ii) Quad Spinner
- (h) Documents relating to manufacturing process and regulatory/compliance:
 - (i) SOPs
 - (ii) Operating instructions ("OIs")
 - (iii) Technical files
 - (iv) Technical specifications
 - (v) Quality management systems ("QMSs")
 - (vi) Master document lists
 - (vii) Material specifications
 - (viii) Engineering study reports
 - (ix) Clinical study reports
 - (x) Risk management reports
 - (xi) Product artwork
 - (xii) R&D papers
 - (xiii) Machine validation reports
 - (xiv) Documents needed for CE Marking, ISO Certification, FDA Approval, HSA licence and other authorities
- (i) Customer lists
- (j) Supplier lists.

130 To begin, the list must be narrowed down further to exclude the information which Clearlab lacked standing to sue upon. These are item (g)(ii), to the extent that it relates to the design of the Quad Spinner, and item (g)(i), to the extent that it relates to the modifications to the Dual Spinner, because Clearlab does not own either of such information.

131 For the remaining information in Annex A, I find that there is a *prima facie* case of confidentiality. Generally, the information have been pieced together from different sources and know-how, and refined from years of R&D. In particular, the set of information that is integral to the manufacturing process, such as the precise dosage, spin-speed and lens dimension, were unique to Clearlab; it was linked to the equipment and materials that Clearlab used and was also the result of extensive experimentation. It was not suggested that the information was made public or shared with other manufacturers of contact lens. I therefore found that the information possessed a quality of confidence.

132 The defendants contended, however, that any information relating to spincasting could not be confidential because it was a dated technology. A brief history of spincasting is useful here. In the 1960s, a Czech, Professor Otto Wichterle, invented a method of manufacturing lenses using a centrifugal casting procedure, *ie*, spincasting. From 1968 to 1988, he prodigiously filed patents on the spincasting method and the apparatus he used for spincasting. These included information on the polymer (the lens material), the mould casts holding the polymer, the outer diameter and height of the mould casts, the rotation speeds, the use of nitrogen or argon to create an inert environment, the solvent (such as glycerol), the source and emission wavelength of UV light, and the stacking of mould casts in a vertical tube. From 1983 to 1987, scientists, other than Professor Wichterle, also filed patents on spincasting and added to the knowledge in the public domain. The defendants pointed out that even the party which sold Clearlab the manufacturing facility in Singapore had filed a patent application on spincasting in 2004. In this application, specific information about spincasting was disclosed, *eg*, 10–40 microlitres of dosage and 200–500rpm spin-speeds were recommended. [\[note: 34\]](#) However, the application was found by the patent examiner to lack inventiveness and it was ultimately abandoned on 30 March 2009. In view of this background, the defendants challenged the confidentiality of the spincasting technique as used by Clearlab.

133 The crucial aspect of the defendants' submission was that, if the information sought to be protected by Clearlab appeared in any patent or patent application, it obviously cannot be confidential. The publication of the patents or patent applications put the information in the public domain and therefore destroyed any confidentiality. That is undoubtedly true.

134 However, Clearlab's case was put on a different footing. It was that, even if the concept of spincasting dated back to the 1960s, and even if spincasting was the subject of many patents and failed patent applications, the detailed operations at Clearlab were not revealed in those patents and patent applications. Therefore, the information listed in Annex A remained confidential to Clearlab. To illustrate, the patent may disclose that the range of spin-speeds was 200–500rpm. But that did not disclose the exact spin-speed that Clearlab used, the duration for that spin-speed, the lens formulation used in combination with that spin-speed, the mould cast dimensions for holding the lens monomer, the inserts used in the prior step to obtain the mould cast, *etc*. These details and their combination were unique to Clearlab. Such information was developed by Clearlab over the years and had evolved into a form that enabled Clearlab to produce contact lens of consistently good quality in a commercially viable production environment. In contrast, the patents and patent applications inform of a general process of spincasting; it could also enable a person to manufacture contact lens, but such person would not have the precise, controlled steps that Clearlab had set out in its confidential documents. Thus, insofar as Clearlab's claims had been based generally on certain steps in its manufacturing process, such as the use of clear plastic mould casts to facilitate UV radiation, such claim of confidentiality would be struck down (as it has been at [127]). But insofar as the claim related to specific designs or dimensions or reports or their combination, I found that such information did possess a quality of confidence. This was the essential difference between the items in Annex A and those in Annex 1 that were excluded from Annex A.

135 In addition, where there was a quality of confidence about the information, the corporate policies of Clearlab had been vital in preserving its confidentiality. There were a number of such policies regarding IT security and physical access to documents that were put in place to ensure that the confidential information was not exposed to the public. It is sufficient here to mention a few of them. First, Clearlab had appointed a Head of Regulatory Affairs and Compliance to manage the hard copies of all its confidential documents, which were stored centrally at a document centre. Prior approval [\[note: 35\]](#) was required for access to these documents. Second, Clearlab allowed only

designated employees to use electronic devices (eg, computers) in the course of their work and, even then, only with electronic devices issued by Clearlab. When Ting infringed the policy by using his personal laptop, Clearlab reimbursed Ting for the costs of his personal laptop so that it had the right to ask the laptop to be surrendered upon the termination of his employment. Third, access to network applications and shared folders had to be preceded by a request form and the requisite approval. All in all, Clearlab had treated its confidential information in a demonstrably confidential manner.

136 On this note, I turn to the specific items in Annex A which the defendants submitted were non-confidential. These were (a) product artwork, (b) supplier lists, (c) design of four notches at the bottom of the mould cast, and (d) certain documents sent by David to Ting.

137 Product artwork was described by Clearlab as consisting of product packaging, labels, package inserts, instructions for use and symbols as required by the customers and/or respective national regulatory bodies. I agree with the defendants that such information is found in products circulated for sale and clearly in the public domain. The claim of confidentiality over product artwork is therefore unsustainable.

138 The second, supplier lists, were argued to be non-confidential because Dr Park conceded that there was nothing confidential about the names of the suppliers or their particulars. This argument appeared to be misconceived. Clearlab's supplier lists were the result of its experience over a period of time with each supplier having been validated as being able to supply chemicals of sufficiently good grade. Oddly enough, the defendants had supported Clearlab's case by submitting that David had been part of the validation process. While David was working at Clearlab, he was said to have used his skill and experience to find the suppliers, whereupon he determined the suitability of the chemicals they supplied. It was therefore clear to me that the supplier lists were protectable as confidential information.

139 Third, the defendants challenged the confidentiality of a specific part of the mould cast design, namely, the four equidistant features at the bottom of each mould cast. It is submitted that the four features were obvious because they were necessary to purge the mould casts of oxygen during the polymerisation process and, further, they appeared in mould casts produced by M Ltd, another contact lens manufacturer. However, these submissions were shown to be either false or irrelevant. The necessity of the four features in spincasting was falsely stated because Clearlab also used casts which did not employ such features. The use of such features by M Ltd was irrelevant because confidentiality was not compromised simply because another person had independently come up with the same idea. More than one person may protect the same confidential information, provided that the information could still be regarded as confidential. Thus, it was more important that both Clearlab and M Ltd had kept the information about the features confidential by, for example, keeping the mould casts with such features from public circulation and not publicising its use. There was no suggestion from the defendants that the information was publicly available as such. In the result, I found the four features to be a design element that was confidential.

140 This leaves only the confidentiality of the documents that David sent to Ting to be determined. There were five such documents contended by the defendants to be non-confidential. Four of them did not appear to fall within the scope of Annex A but, in any event, they may be swiftly dealt with as their lack of confidentiality was not seriously disputed:

- (a) Atago Hand Held Refractometer.pdf. This was an operating manual for the Atago brand of refractometer. The only dispute between the parties was whether it was available for online download or whether it was provided with the machine. In either case, I found that there was sufficient dissemination of the document to make it non-confidential.

(b) chemist[1].doc. This was either David's resume or a description of David's position in Clearlab. Clearlab had not suggested that it was confidential.

(c) 3287.001.pdf. The defendants asserted that this was a press release issued by Cognis UK Ltd announcing BASF's purchase of its business. This was not challenged by Clearlab.

(d) http.doc. The defendant asserted that this was a website link to scientific articles and journals. This too was not challenged by Clearlab.

141 Thus, all four documents above were non-confidential. The only truly contentious document was the fifth, "Raw Material.doc". According to the defendants, this was a bare form generated based on information from the US Food and Drug Administration website. According to Clearlab, however, it was a list compiling the particulars of Clearlab's chemical suppliers and suppliers of raw materials. It contained their telephone numbers and email addresses as well as the industry standard chemical number of the various chemicals and raw materials supplied by them. Neither party's version can be verified as the document had been deleted and could not be recovered. But given that the existence of the document was discovered from an email fragment retrieved by Clearlab's IT forensics experts, and the email fragment showed that David emailed the document to Ting on 24 June 2011 [\[note: 36\]](#) (which was after Ting's dismissal from Clearlab but during David's employment at Clearlab), I was inclined to believe Clearlab. On balance, I found that Raw Material.doc was confidential.

142 To summarise, the items in Annex A were *prima facie* protectable by Clearlab as confidential information (except for the following: (a) design of the Quad Spinner in item (g)(ii), (b) modifications to the Dual Spinner in item (g)(i), (c) product artwork in item (h)(xi), and (d) the following documents sent by David to Ting: (i) Atago Hand Held Refractometer.pdf, (ii) chemist[1].doc, (iii) 3287.001.pdf, and (iv) http.doc).

Second element: Obligation of confidence

143 In the second element of breach of confidence, the plaintiff must show that each of the defendants was subject to an obligation of confidence.

144 This element was easily satisfied in relation to the following defendants who were under a contractual obligation of confidence: the first to fourth defendants (*ie*, Ting, David, Goh and Ng), who were ex-employees and restrained under an express confidentiality clause in their employment contracts, and the seventh and eighth defendants (*ie*, Ma and Li), who were bound by a confidentiality agreement.

145 The fifth defendant, Aquilus, stood in a slightly different position. It was a third party recipient of information. More importantly, it was the corporate vehicle through which the defendants intended to exploit the confidential information they had obtained in breach of confidence. The general rule of law is that the knowledge of the defendants (of the confidentiality of information they had passed on to the company) will be imputed to the company. In *JN Dairies Limited v Johal Dairies Limited and others* [2009] EWHC 1331 (Ch), the court had no hesitation in finding at [113] that the company, which had received confidential documents through its director, would, through the director, be deemed to have knowledge of the confidential nature of the documents and the circumstances in which it had been obtained, and thus be bound by the same duty of confidence. The same principle applies here. Aquilus, through the knowledge of its employees, was put on notice of the confidentiality of the information that came into its possession through the defendants and would therefore owe an equitable obligation of confidence.

146 As for the ninth defendant, Ho, I found that there were good grounds for him to be aware that Clearlab's confidential information was used at Aquilus. Insofar as he had received Clearlab's documents, he would be fully aware that the documents were confidential to Clearlab because they were unerringly marked with Clearlab's name and a confidentiality warning. While I note the defendants' point, which was that Clearlab may not throw a cloak of confidentiality over its documents and bestow them with confidentiality if they did not contain confidential information in the first place, that was not Clearlab's contention here. Clearlab submitted that Ho had objective notice of the confidentiality of the relevant documents that were in fact confidential. Also, it was obvious that the documents are taken by the ex-employees, whom Ho had recruited, for the purpose of establishing a competing business in contact lens manufacturing. I also found as a fact that Ho knew about the nature of the documents. These circumstances imported an equitable obligation of confidence upon Ho.

Third element: Unauthorised use

147 Before beginning on the discussion of the third element, I observe that the circumstances of the alleged unauthorised use made of Clearlab's confidential information were distinctly different for: (a) Ting, David, Goh, Ng, Ho and Aquilus, and (b) Ma and Li. As such, I intend to delineate the discussion along this line; I will first discuss the alleged unauthorised use by the defendants in group (a), and then discuss the alleged unauthorised use by the defendants in group (b).

Ting, David, Goh, Ng, Ho and Aquilus

(1) Overview of the defendants' conduct

148 I would state at the outset that I considered it clear that the group (a) defendants were in breach of confidence. There were two factors which drive this point home. First, these defendants were involved in an ambitious plan to establish a business in manufacturing contact lens within an impossibly short time and with only the ex-employees to serve as the technical personnel. Second, the ex-employees had surreptitiously taken a large number of documents from Clearlab and later (together with Ho) deleted what seemed to be the same documents in Aquilus when they realised there was a search order.

149 Let me elaborate. From the minutes of the meetings at Aquilus, tight deadlines were set for the product to be registered with the HSA. On 8 August 2011, exactly a week after David, Goh and Ng joined Aquilus, it was already decided that an application for a manufacturing licence would be made to HSA in October 2011. [\[note: 37\]](#) It was difficult to see how the ex-employees could independently create the manufacturing process from scratch within such a short timeframe relying only on themselves, a skeletal crew of four, for the technical expertise. But such speed would be consistent with the use of Clearlab's confidential information. For example, test reports were forged by copying actual test reports from Clearlab. David admitted that S-STB-FIR-11-002.doc was copied wholesale from a shelf-life report for Clearlab's daily lens. [\[note: 38\]](#)

150 Shortly before leaving Clearlab, David, Goh and Ng essentially took all that they needed to recreate Clearlab's manufacturing process. Evidence was captured of David accessing a series of documents in Clearlab within seconds or minutes of each other. Upon cross-examination, David admitted that he was looking at specific documents and downloading them. [\[note: 39\]](#)

151 This resulted in a remarkable number of documents that were taken from Clearlab. Each of the ex-employees had taken documents and David alone had admitted to taking 1,500. At a joint review

of 49,787 forensic images extracted during the execution of the search order, 6,153 documents were acknowledged as belonging to Clearlab. It later appeared that not all of these 6,153 documents were Clearlab's documents (*ie*, they seemed to be third party documents) but this did not obscure the point that a substantial number of Clearlab's documents were amassed by the ex-employees for easy access at Aquilus.

152 Subsequently, a large collection of Clearlab's documents appeared to be stored in Ting's and David's office and home desktop computers, which were deleted *en masse* on the first day of the search order. A basic keyword search using the term "Clearlab" was run on their computers and the following number of deleted files were found: [\[note: 40\]](#)

- (a) David's office desktop computer: 4,070
- (b) David's home desktop computer: 844
- (c) Ting's office desktop computer: 4

153 Deletions were also made of files in an external hard disk drive belonging to an employee of Aquilus, Nancy Looi, [\[note: 41\]](#) and files in Aquilus' server.

154 It would appear, from the hasty deletions, that the defendants were surprised by the search order and scrambled to delete the documents to hide their tracks. In turn, this suggested that the deleted documents were Clearlab's confidential documents.

155 As such, I had no doubt that a case of breach of confidence was made out against Ting, David, Goh, Ng, Ho and Aquilus. The only issue was the extent to which Clearlab would succeed in proving all of its individual claims of breach of confidence.

156 As it is easier to deal with the clear instances of breach, I shall begin with those.

(2) Clear instances of breach of confidence

(A) Profiling software – SCS6

157 The SCS6 was a program used in the initial stages of the manufacturing process to calculate the requisite lens dimensions for a range of optic power. There was no dispute that SCS6 was confidential and treated by Clearlab as such. The only serious argument advanced against the Clearlab's case was that SCS6 was not used and could not be used. While Goh was still at Clearlab, he alleged that he had never successfully used SCS6 for designing inserts and had to resort to SolidWorks to carry out his work. [\[note: 42\]](#) The evidence raised in support of his allegation came to this: (a) the engineer who had preceded Goh in Clearlab had difficulties designing inserts using SCS6, [\[note: 43\]](#) (b) Goh would have taken a much shorter time developing inserts whilst in Clearlab if he did know how to use SCS6, (c) but since he was using the slower trial and error method with SolidWorks, he was only able to complete insert designs for a limited range of powers (*ie*, 13 out of 50 powers) for Aquilus as of 28 February 2013, [\[note: 44\]](#) and (d) Clearlab could have checked whether the Aquilus' lens have the characteristic three dominating curves with two blendings and different bands of powers that would result from using SCS6, but it did not. In short, the defendants' case was that Goh had used SolidWorks all the while at Clearlab and later at Aquilus, and Clearlab only had to check the differences between Clearlab's and Aquilus' lens to confirm that SCS6 had not been used.

158 It appeared to me that the defendants' allegations stood on shaky ground. If Goh's contention was that he solely used SolidWorks to design inserts, he was unable to show it in court. He had initially explained that, in designing inserts, he would always start with the R value; he would see how the changing of R produces a different dioptr. There were other values involved, such as X and Z, but they were not used as the independent variable because his method consisted of fixing X, varying R and then checking how Z was correspondingly varied. [\[note: 45\]](#) In his demonstration in court of how he would design a zero power lens using SolidWorks, he veered from his avowed method. First, Goh took the Z value generated by MCG to input into SolidWorks. This completely contradicted his explanation that Z was a dependent variable, and that it was R which should drive the change in Z in SolidWorks. [\[note: 46\]](#) Secondly, as mentioned at [49] above, in Goh's AEIC, he had not stated that MCG was involved at all until SolidWorks design was completed. [\[note: 47\]](#) But he shifted his evidence three times. When he did the demonstration, he gave an impression that the Z value had to be obtained from MCG. On cross-examination, he said that he had to go back and forth between MCG and SolidWorks in order to get good values for his first cut design. [\[note: 48\]](#) On the next day, he said his demonstration was wrong because there was no need to refer to MCG for designing insert for zero power lens. [\[note: 49\]](#) I also said earlier that his explanation that he had forgotten how to use SolidWorks was highly doubtful at [49]–[52] above. SolidWorks, as thoroughly demonstrated by Goh, was merely a 3D imaging software, with no computational function for deriving lens dimensions.

159 Further, as mentioned at [51] above, Goh was further confronted with documents [\[note: 50\]](#) which showed that he had used SCS6 in Clearlab up to 2010. His claim to have discarded SCS6 at Clearlab and having used SolidWorks only became more incredible in view of this evidence. Furthermore, he had explained that the label of "SCS6" on the documents was "for show only" but on re-examination, he accepted he was documenting his attempts to use SCS6. I found that he was not a credible witness at all.

160 Lastly, the defendants were unable to explain why SCS6 was found to have been run on Ting's Aquilus desktop. [\[note: 51\]](#)

161 From the evidence before me, I agreed with Clearlab that Goh's explanation of using SolidWorks was a contrived explanation to distance himself from SCS6. I found that Goh did know how to use, could use and had used SCS6 in breach of confidence.

(B) Profiling software – torsing

162 The torsing program functioned very much like the SCS6 program; it also computed the dimensions of lens. The main difference was that torsing was used for designing toric lenses which were made using the cast mould method, whereas SCS6 was used for designing lenses which were made using the spin-cast method.

163 For the same reasons as above, it was unlikely that the SolidWorks software was sufficient for designing toric lenses.

164 The defendants, however, proceeded with another line of defence, claiming that Aquilus did not intend to manufacture toric lenses, and therefore they would not have any reason to use the torsing program. But this defence was untenable given that: (a) Goh admitted to accessing the torsing program from his thumbdrive whilst in Aquilus, [\[note: 52\]](#) (b) there was IT forensic evidence that torsing was run on Ting's and Goh's Aquilus computers, [\[note: 53\]](#) and (c) Goh further admitted to

making drawings of female toric inserts [\[note: 54\]](#) (although this admission was made in an attempt to side-step a separate allegation that the drawings were wrongfully taken from Clearlab). I make no finding as to who had drawn those inserts, but if it were Goh, I have no doubt that he had used torsing.

165 Despite these admissions, Goh attempted to dispute the use of torsing by alleging that it was an unreadable file. In the face of the aforementioned IT forensic evidence showing that the file had been opened and run, this was clearly false.

(C) Hioxifilcon A formulations

166 The preparation of the monomer, or the material of the lens, using a lens formulation was a key step in the manufacturing process. At Clearlab, both spin-cast and mould-cast lenses were made using its allegedly confidential Hioxifilcon A formulations. Clearlab asserted that its precise chemical formulations were not disclosed in any patent. This was despite Clearlab acknowledging that it had a licence for the world-wide use of Hioxifilcon A formulation that was the subject of several US patents owned by Benz Research and Development Corporation and Hydrogel Vision Corp, namely, US Patent No 5,532,289, US Patent No 6,011,081 and US Patent No 6,555,598. [\[note: 55\]](#) The argument run by Clearlab was that its lens formulations were derived after many years of R&D and significant financial investment. They were not revealed in the patents that Clearlab took a licence to use. I agreed with Clearlab. I noted that, at Clearlab, David was tasked to carry out trials to alter the lens formulations, [\[note: 56\]](#) so this supported Clearlab's case that its formulations were being improved over the years. Based on the defendants' submissions, it also appeared that the defendants did not deny that Clearlab's formulations were confidential. Thus, I proceed on the basis that Clearlab's formulations were protectable as confidential information.

167 The main dispute with regards to the lens formulations concerned the use of these formulations. The defendants' case was that David derived a different Hioxifilcon formulation at Aquilus using US Patent No 6,566,417 B2. They claimed that there was no breach of confidence because Aquilus' formulation was not copied from Clearlab. On the contrary, they alleged that Aquilus' formulation was developed by David relying on his own skill and knowledge. The evidence that the defendants relied on were the differences between Clearlab's and Aquilus' Hioxifilcon A formulations.

168 There are indeed a number of stark differences between the two formulations. However Clearlab urged me to take a sceptical view of the differences between the two formulations. The reasons appear to be three-pronged. First, the column displaying the formulation for Aquilus' Vodaclear Daily lenses contained dated information. It emerged in cross-examination that Aquilus' lens formulation was no longer the lens formulation in use at Aquilus. [\[note: 57\]](#) It was wholly unclear what lens formulations Aquilus was using at the time because there was no further evidence from the defendants on this matter. Second, Clearlab argued that the information misled the court into thinking that Clearlab's formulation was never used by David, when it in fact was. Two alleged differences in the formulations were said to be fallacious.

(a) Surfactant: The defendants' case was that that Aquilus used Tetronic whereas Clearlab used Pluronic. However, this was doubtful because, at one point, David admitted that he initially used Pluronic at Aquilus. [\[note: 58\]](#) Further, there was a photograph taken by Clearlab of a bottle of Pluronic in Aquilus' laboratory at the time of the execution of the search order. [\[note: 59\]](#) It was also discovered that, even before David left Clearlab, he had downloaded a document on the material specification for Pluronic from Clearlab's server. Clearlab stated that this was highly suggestive that David had set out to use Pluronic.

(b) UV initiator: The defendants' case was that that Aquilus used Darocur whereas Clearlab used BME. But, again, David admitted to using BME at Aquilus, [\[note: 60\]](#) and a bottle of BME was found in Aquilus' laboratory and photographed by Dr Park during the execution of the search order. [\[note: 61\]](#) After leaving Clearlab, Ting had also asked David for photographs of Clearlab's Millipore pressure vessel and filtration system, which David in turn asked Tan Aik Ming ("Tan"), a Clearlab employee, to take. Tan took five to seven photographs of Clearlab's equipment and sent them to David's personal email account. Clearlab stated that the interest displayed in the equipment showed that the defendants had intended to use BME at the outset because this equipment was necessary to filter out BME or any other solid form of UV initiator. If the defendants had intended to use Darocur, they would not have required such equipment (or photographs of the equipment) because Darocur was a liquid UV initiator.

169 Third, Clearlab submitted that the properties of the lenses produced by Aquilus were inaccurate or contrived. David gave evidence that higher water content correlated to a higher swell factor in the lens, but it was in conflict with his own AEIC which stated that Aquilus lens had a higher swell factor but lower water content. [\[note: 62\]](#) David tried to get round this inconsistency by suggesting that the laboratory report on the water content of Aquilus' and Clearlab's lenses was wrong, but I found his explanation to be unconvincing. [\[note: 63\]](#)

170 Given the logical inconsistencies of the figures and David's admissions that he was not currently using the exact formulation, I treated the differences between the two formulations with caution. In my mind, it carried little, if any, weight.

171 However, even if I should heed the differences between the two formulations, Clearlab submitted that these differences were only cosmetic. In this alternative submission, Clearlab submitted that the defendants would not make any significant changes to Clearlab's lens formulations because it would impede them from using Clearlab's combination of lens dimensions, dosage and spin-speeds in the subsequent steps to manufacture contact lenses.

172 To show that the defendants had copied from Clearlab but cosmetically disguised its formulation to look like a different formulation, Clearlab submitted that the properties of the Hioxifilcon A produced from both formulations were not so dissimilar. The properties in the three bottommost rows of the table were refractive index, specific gravity and oxygen permeability. David admitted that the figures reflecting the properties of Clearlab's lens could fall within the standard deviation (associated with each property) of the figures for Aquilus' lens. [\[note: 64\]](#) Furthermore, in terms of the differences in the constituents of the formulations, Clearlab had shown that some of the differences were not so significant:

(a) For the surfactant and the UV initiator, David admitted that Pluronic and BME were functional equivalents of Tetronic [\[note: 65\]](#) and Darocur [\[note: 66\]](#) respectively. Both Pluronic and Tetronic (used as surfactant) served the same function of debonding the lens from the surface of the cast, and both BME and Darocur (used as UV initiator) served to effect polymerisation.

(b) For the tint, David admitted that the difference was insignificant as it was no more than a chemical to colour a lens. [\[note: 67\]](#)

(c) Finally, the packaging solution was merely a solution that finished lenses were immersed in when packaged.

173 The broad thrust of Clearlab's submissions was that these differences were an attempt to camouflage the fact that the defendants had copied Clearlab's formulation. However, I was not prepared to conclude that all the differences are merely cosmetic. This was because Clearlab had not submitted on how the difference in the GMA/HEMA ratios applied at Clearlab and Aquilus was not significant. Bearing in mind that the end-product, Hioxifilcon A, was essentially a copolymer of GMA (2,3-dihydroxypropyl methacrylate) and HEMA (2-hydroxyethyl methacrylate), I could not simply discount the different combinations of HEMA and GMA shown by the differences between Clearlab's and Aquilus' formulations. For this reason, it remained unclear whether Aquilus' formulation was merely cosmetically different from Clearlab's formulation. That said, the uncertainty in this regard was immaterial as I have earlier stated that I am not placing much weight on the differences between the two formulations.

174 Aside from technical evidence on lens formulations, Clearlab submitted that there was irrefutable evidence that the defendants copied the formulation. First, the defendants had access to the requisite information because Ting admitted that David had sent to him the full suite of Clearlab's lens formulations. [\[note: 89\]](#) Amongst the documents sent, two were entitled, quite tellingly, "S-TEF-FRP-004 TECHNICAL FILE (Clear All Day).doc" and "SG-ID-002_R08 Composition of Monomer Formulation.pdf". [\[note: 69\]](#) Further, there was evidence the defendants had intended to replicate Clearlab's formulation. The defendants' plan, as encapsulated in its minutes of meeting on 8 August 2011, was to apply for a HSA manufacturing licence by October 2011. [\[note: 70\]](#) David admitted under cross-examination that Aquilus had to have a workable lens formulation in order to obtain HSA manufacturing licence. There would not have been enough time for David, since joining Aquilus in August 2011 till the deadline of October 2011, to look at patents and independently develop a lens formulation.

175 From the foregoing, it can be seen that the defendants had formed an intention to replicate Clearlab's formulations at the time of taking the documents out of Clearlab, and had acted on that intention by buying and using chemicals that were, by their own evidence, not required under the formulation they claimed they used, but were clearly required under Clearlab's formulation. The irresistible inference was that the defendants had indeed used Clearlab's formulations and I so find.

176 There was one other argument that the defendants had made to resist liability in relation to the lens formulation. As stated earlier, Clearlab entered into a licence agreement for the use of three US patents. Based on this, the defendants challenged Clearlab's right to commence legal action in relation to its Hioxifilcon A formulation, first, because it was a mere licensee and, secondly, because the patents were only enforceable in the US. This was a misconceived argument as Clearlab had not claimed the right to enforce patents. Thus, while the defendants' submissions about the patent law may well be correct, they were inapplicable to the present suit.

(D) Combination of dosage, spin-speed and lens dimensions

177 After preparing the lens monomer, but before the curing process, there was a spinning process. A precise quantity of lens monomer would be dosed onto the mould cast and spun at controlled speeds. Both sides accepted that minor variations in dosage and spin-speed would affect the power of the lens produced. Accurate speed controls and precise dosage were therefore critical to the manufacturing process. The claim of breach of confidence under this head was in respect of the combination of dosage and spin-speed to produce lens of the requisite dimensions.

178 The defendants did not dispute the confidentiality of the information. They, however, submitted that there was insufficient evidence to show that they had used Clearlab's spin-speed and

dosage because if the defendants had copied Clearlab's spin-speed and dosage, they would had to copy the exact spin-speed and dosage. Otherwise, the lens produced would not attain the targeted power. If there was any difference in spin-speed and/or dosage, it would prove that the defendants had not copied from Clearlab. The defendants emphasised that Clearlab had refused to disclose its combination of dosage, spin-speed and lens dimensions.

179 On that last point, it bears noting that Clearlab was entitled to redact any documents containing such information on the basis of confidentiality. Therefore, the lack of such information was not, in itself, determinative of the matter. Separately, there was ample evidence that a document containing dosage and spin-speed information was taken from Clearlab. The request for the document was first made by David to Tan. Tan acceded to the request and sent the document from his personal Gmail account to David's personal Gmail account. David then sent the document to Ting.

[\[note: 71\]](#)

180 The evidence that tipped the balance in Clearlab's favour was the reason given by David for requesting the document. When cross-examined on this, David answered in the following manner:

[\[note: 72\]](#)

Q: If you look at this document, it contains fabrication data. If you look at page 180, we had to blacken out, redact the numbers.

A: Yes.

Q: But this contains the fabrication data for the entire power range, from +6.00 to -10.00. Yes?

A: Partially agree.

Q: Can you give your answer again.

A: Partially agree.

Q: It does contain the fabrication data, yes?

A: Yes.

Q: And it is for the entire power range.

A: Yes, for the particular moulding machine.

Q: Mr David, by 23 September you had already physically left the company.

A: Yes.

Q: You knew you had this document with you?

A: Yes.

Q: And this document belongs to Clearlab?

A: Yes.

Q: But you did not destroy this or return to Clearlab; instead you forwarded it to yourself.

A: Sorry?

Q: Instead of destroying this document or returning this document to Clearlab, you instead forwarded it to yourself, from your personal Gmail account to your Aquilus e-mail.

A: Actually it was forwarded by Edward [ie, Tan] of Clearlab to me, to my personal e-mail.

Q: Why did you want to keep something like this? Even if Edward [ie, Tan] had given it to you, you should have destroyed it or given it back to Clearlab.

A: You mean went to destroy? Because this one, *when I was developing lens formulation for Aquilus, we were facing a lot of difficulties in coming up with a good lens, so as part of development of lens formulation for Aquilus, I need to develop one lens, namely minus 3 diopter, but I am running short of time, so that - - I was thinking that it may be helpful for me to shorten the trial to coming up with -3.00 lens, but I asked Edward [ie, Tan], "Could you please send some rough and those data for -3.00, then he has sent the range of this - - I think I asked only one power. I cannot say that - - I remember I asked for only -3.00, and then he has sent me these.*

Then I somehow got it from him, and then, trying to use for the Aquilus formulation, I knew it won't work because this insert is designed for one particular moulding machine, it will suit the speed, and those data will be suitable for one particular moulding machine. And Clearlab's lens formulation - -

[emphasis added]

181 On the evidence, David had asked for the document from Tan because he needed it to develop -3.00 dioptre lens. This suggested that the document was used at least for making -3.00 dioptre lens. I find that breach of confidence was made out in respect of Clearlab's combination of dosage, spin-speed and lens dimensions.

(E) Parameter settings for Optoform 80 machine

182 The metal insert for producing the cast mould was cut using an Optoform 80 machine. As described earlier, the dimensions of the insert were initially determined by the SCS6 and fine-tuned by an iterative process using SolidWorks. The insert dimensions were then converted into parameter settings which were inputted to the Optoform 80 machine to cut the insert.

183 There was no dispute that the parameter settings were confidential. The only question was whether they were used by Aquilus. The evidence was relatively straightforward. Ng admitted to copying the excel file storing the parameter settings keyed in by other technicians. [\[note: 73\]](#) Furthermore, Ng admitted that the file was not deleted when he left to join Aquilus and he later forwarded it to Goh using his Aquilus email account. [\[note: 74\]](#) The excuses Ng made were poor. First, he claimed to have taken the file for "self-study", which was incredible, because it was unlikely that he could learn much from what was basically a compilation of numbers representing spindle rpm, feed rate, pass rate, block diameter, cup depth, etc. [\[note: 75\]](#) It also did not explain why he had to send Goh the file as well. Secondly, he claimed that a lathe machine service engineer was engaged to input the parameter setting in Aquilus' Optoform 80 machine, [\[note: 76\]](#) but it is hard to believe that an

engineer without a background in contact lenses would know what settings to input. Minutes later during the cross-examination, he seemed to change his evidence by saying that he did it the hard way from scratch, *ie*, he tested until he got the correct result. [\[note: 77\]](#)

184 From the defendants' closing submissions, there was a further suggestion that a comparison should be made between Aquilus' inserts and mould casts, and Clearlab's inserts and mould casts. If the dimensions were different, then, logically, the parameter settings (for cutting the inserts, which are in turn used to shape the concave cavity of the mould casts) must also be different. However, the defendants stopped short of submitting that the inserts and mould casts had different dimensions, though, they did, in their reply submissions, referred to Goh's AEIC on the different sizes of Aquilus' and Clearlab's inserts. [\[note: 78\]](#)

185 This evidence was adduced to rebut Clearlab's other claim that Goh had used its SCS6 program. Earlier, I have disbelieved Goh's claim that he was able to design inserts using SolidWorks only. As the dimensions of Aquilus' inserts were put to me as the result of Goh's work using SolidWorks, their *bona fides* were doubtful. I therefore did not rely on this evidence.

186 I was persuaded, on a balance of probabilities, that the parameter settings taken by Ng were used in breach of confidence by the defendants.

(F) Documents for ISO and OHSAS certifications

187 Aquilus applied for four certifications (*ie*, ISO 13485:2003, ISO 14001:2004, ISO 9001:2008, OHSAS 18001:2007) on 1 June 2011 and, following an audit by TQCSI, obtained all four certifications on 3 November 2011.

188 According to Clearlab, this was an impossible feat unless Aquilus had copied and used Clearlab's confidential documents. Clearlab highlighted that the defendants, with such limited manpower, had set tight deadlines for themselves. Three of its four technical crew (*ie*, David, Goh and Ng) had only come on board on 1 August 2011, after the application for certifications was made and barely three months later, the certifications were issued. Clearlab also pointed out that the ISO certification required a minimum of three months of actual implementation of QMSs and related SOPs. The remarkable speed at which Aquilus obtained certifications, Clearlab submitted, overwhelmingly suggests copying.

189 In rebuttal, the defendants sought to credit the quick certification process to Nancy Looi's previous experience with ISO standards in Central Global and Jingle Interior Decorations (S) Pte Ltd. However, none of those companies were involved in contact lens manufacturing nor were they accredited with ISO13485:2003 (the quality management standard for the design and manufacture of medical devices). It seemed that Nancy Looi's experience had little relevance in the technical areas of contact lens manufacturing and she could only speed the certification process up to a limited extent.

190 Secondly, Clearlab pointed to emails sent by David to Sara with vague instructions for her to make changes to various documents. The first of such emails was sent on 1 September 2011 with the following words: "This is Clearlab Microlab SOP, please write it for Aquilus". Four days later, on 5 September 2011, David sent a larger batch of documents to Sara, saying "attached are some SOPs and OIs, needed to change for Aquilus". Sara replied on 5 October 2011 with eighteen attachments and described her work as having "removed all mentions of CL and also changed the words 1-Day to Daily Lens". [\[note: 79\]](#) Finally, on 6 October 2011, David emailed back saying "Thanks for SOPs. It is great." [\[note: 80\]](#)

191 A review of some of these attachments showed that Aquilus' documents were in substance identical to Clearlab's. [\[note: 81\]](#) When confronted with Clearlab's and Aquilus' nearly-identical "Essential Requirement Checklist" for daily disposable lens, Sara admitted to copying (by copy-typing, not cutting and pasting) as copying had saved weeks of time to prepare the document, and that it was wrongful. [\[note: 82\]](#) During the copy-typing process, she changed (a) Clearlab's name to Aquilus' name, and (b) Clearlab's product names to generic names. [\[note: 83\]](#) Although Sara gave evidence she had gotten David's instructions wrong [\[note: 84\]](#) because David had later (after the execution of the search order) told her that she was supposed to use Clearlab's documents only as a template and to write the documents independently, that was scarcely believable. Sara had no prior experience in the contact lens industry. She was hired by Aquilus as a sales and marketing executive. It was questionable why David would even approach Sara to write some SOPs and OIs when she had little to no knowledge of the manufacturing process for contact lenses. Moreover, Sara, in her AEIC, [\[note: 85\]](#) clearly stated that she told David that she was not technically trained.

192 Nevertheless, the defendants asserted that there was no breach of confidence because the copy-typed documents were not used by Aquilus, whether for certification or otherwise. The main evidence came from David who attested that he did not open some of Sara's attachments at all because he had doubts about her capability after seeing her copy-typed work. [\[note: 86\]](#) The defendants also pointed out that the auditors' checklist and work sheets did not refer to Sara's copy-typed documents.

193 However, use of Clearlab's SOPs and OIs were not limited to the audit of Sara's copy-typed documents. Implementation of the SOPs and OIs to satisfy the audit requirements would constitute use as well. Relevantly, David had emailed Dawn Teng to run the company using Clearlab's standards in an email on 6 September 2011. The exact words in that email were: "As per Mr Ting advice, we can use Clearlab's standard for a while." [\[note: 87\]](#) This email was sent in the midst of the audit, which took place on 5, 10, 11, 12 and 13 September 2011.

194 In view of the foregoing, I found that the evidence had shown that the defendants used Clearlab's documents in breach of confidence to obtain the four certifications.

(3) Potential use

195 An interesting issue arose as to claims of breach of confidence in respect of the documents that were not so clearly used. As mentioned, there were thousands of documents that were taken by the defendants. The above discussion only addressed documents that were used, which comprised a fraction of the documents taken by the defendants.

196 The evidence showed that the defendants took as many documents as they could while they were in Clearlab and in a position to do so. Amongst the documents taken, many were not immediately useful to Aquilus. The defendants drew the court's attention to records of customer complaints, password-protected files that could not be opened, clinical studies on Clearlab's products, [\[note: 88\]](#) obsolete Plymouth procedures, [\[note: 89\]](#) trial lens test report, draft qualification report, lens formulation for cast moulded lens, and listings of production and failure rates at Clearlab. [\[note: 90\]](#) The defendants pointed out that these were useless to Aquilus. Also, given the promptness in which Clearlab obtained an interim injunction against the defendants, there were other documents the defendants had no opportunity of using by the time of the institution of these proceedings.

197 Contrary to the defendants' submission, it was clear to me that in taking the documents in

such a manner, they had intended to arm Aquilus with a database of information from which they could extract such information that would be useful as and when needed. Wholesale copying was convenient for the defendants as it did not require expenditure of cost or manpower and the documents taken could be analysed for usefulness at leisure. They were also on tap as a useful library of resource material. That was the reason that the process was not selective and they had ended up with many documents that were totally useless and many more that were not of immediate use but were potentially useful. The critical question was: can confidential documents be taken from Clearlab in such a blatant manner and, simply because they cannot individually be proved to be used by Aquilus, not be subject to an injunction or order for delivery up? The defendants had construed this question as being one of breach. They seemed to be asserting that the particular breaches in respect of documents that were not used could not be made out and therefore no remedy was available for these documents.

198 But that is not the only way to look at this question. In *National Broach and Machine Co v Churchill Gear Machines Ltd* [1965] 1 WLR 1199, it was held that a plaintiff was also entitled to a remedy in respect of all the information he had shown to be confidential, so long as there are proven instances of breach of confidence. The rationale in that case was that “there is a certain lack of reality” to limit recovery to the exact number of drawings that the defendants wrongfully used, when it appeared that there were only some but not all of the drawings that were received by the defendants: at 1202 per Willmer LJ. I agree entirely with this approach. The principal concern in the present case was to restrain the defendants, who were proven to have wrongfully used some of Clearlab’s confidential information, from committing further breaches of confidence in respect of the remaining confidential information that they had wrongfully taken away. This was the principal basis of my orders at [331]–[332].

199 I will leave the question open as to whether the mere taking of confidential information can constitute a breach of confidential information. By way of observation, I will add that there are competing considerations. On one hand, there is a perception that breach should not be confined to use and disclosure, but should be interpreted in the context within which the obligation of confidence arose. Thus, the argument could be made that the defendants’ behaviour in taking Clearlab’s documents and keeping them for the purpose of future reference was at odds with their obligation of confidence to Clearlab and should constitute a breach of confidence. The key fact was that they had surreptitiously obtained for their own use confidential information which they should not have access to after their employment with Clearlab ceased. On the other hand, many of the cases on breach of confidence are grounded on past unauthorised use or disclosure. Based on the consistent emphasis of breach being actual use or disclosure, and the vintage of *Coco’s* formulation of the element of breach as “an unauthorised use of that information to the detriment of the party communicating it” (*Coco* at 47), the opposing argument is that the defendants should not be liable if they are not actually shown to have used the confidential information.

200 As this issue has not been discussed in any depth in Singapore, I find it useful to review the relevant decisions in the other Commonwealth jurisdictions.

201 First of all, the Australian courts have explicitly moved away from the concept that actual use or disclosure is required to establish a breach of confidence. According to the Australian authorities, threatened use or disclosure of the confidential information is sufficient. As early as 1984, in *Moorgate* at 438, it was mentioned in passing that the court in its equitable jurisdiction may grant relief against an “actual or threatened abuse of confidential information”. The case did not in fact address why threatened abuse should suffice but that phrase was repeated in a number of subsequent decisions. Thereafter, it became settled law that one of the elements for a breach of confidence was “actual or threatened misuse” of confidential information: see *Smith Kline & French*

Laboratories (Aust) Limited and others v Secretary, Department of Community Services and Health (1990) 22 FCR 73 at 87. Claims have therefore been pursued on the basis that there was an apprehended breach of confidence in order to restrain an expected injury to the plaintiff's right and to preserve the confidentiality of information. For example, in *AZPA Pty Ltd and anor v Dogan and anor* [2010] VSC 51, the defendants had not yet disclosed the confidential information but the plaintiffs feared that they would do so in favour of a supplier, so they moved to restrain the defendants. Under this approach, the second element for the breach of confidence action was framed by the court, and seemingly accepted by all parties, as a requirement that one of the defendants "proposes to, or threatens to use that information": at [10].

202 In England, the test for breach of confidence remains that of the aforementioned three elements stated by Megarry J in *Coco*. But despite the requirement of an "unauthorised use" in *Coco*, the courts have been willing to come to the aid of the plaintiff even where there is only imminent use or disclosure of confidential information. This is well illustrated in the case of *Imerman v Tchenguiz and others* [2011] 2 WLR 592 ("*Imerman*"). The case concerns the right of a wife, who was seeking ancillary relief from her husband, to retain copies of documents which were unlawfully obtained. In reaching the conclusion that a claim in confidence against the wife would succeed and that she should return all copies of the documents, the court stated (at [68]–[69]):

If confidence applies to a defendant who adventitiously, but without authorisation, obtains information in respect of which he must have appreciated that the claimant had an expectation of privacy, it must, *a fortiori*, extend to a defendant who intentionally, and without authorisation, takes steps to obtain such information. It would seem to us to follow that *intentionally obtaining such information, secretly and knowing that the claimant reasonably expects it to be private, is itself a breach of confidence*. The notion that looking at documents which one knows to be confidential is itself capable of constituting an actionable wrong (albeit perhaps only in equity) is also consistent with the decision of the Strasbourg court that monitoring private telephone calls can infringe the article 8 rights of the caller: see *Copland v United Kingdom* (2007) 25 BHRC 216.

In our view, *it would be a breach of confidence for a defendant, without the authority of the claimant, to examine, or to make, retain, or supply copies to a third party of, a document whose contents are, and were (or ought to have been) appreciated by the defendant to be, confidential to the claimant*. It is of the essence of the claimant's right to confidentiality that he can choose whether, and, if so, to whom and in what circumstances and on what terms, to reveal the information which has the protection of the confidence. It seems to us, as a matter of principle, that, again in the absence of any defence on the particular facts, a claimant who establishes a right of confidence in certain information contained in a document should be able to **restrain any threat by an unauthorised defendant to look at, copy, distribute any copies of, or to communicate, or utilise the contents of the document (or any copy)**, and also be able to enforce the return (or destruction) of any such document or copy. Without the court having the power to grant such relief, the information will, through the unauthorised act of the defendant, either lose its confidential character, or will at least be at risk of doing so. The claimant should not be at risk, through the unauthorised act of the defendant, of having the confidentiality of the information lost, or even potentially lost.

[emphasis added]

203 A number of observations can be made from the decision. First, the court appears to have accepted a wide range of acts as capable of constituting breach: these are italicised above. They consist of the unauthorised acquisition of the information (whether by examining it or making copies) or the more conventional acts of use or disclosure of the information (such as, by supplying copies to

a third party). The court could not condone the deliberate steps taken to purloin confidential documents without the consent of the plaintiff, and it seems that any act relating to, enabled by or flowing from the taking of confidential documents will be put to a stop. If the defendant was not entitled to the confidential information in the first place, the defendant would not be entitled to the confidential information no matter what was done. The court went on to pronounce at [74] that "equity fashions the appropriate relief to fit the rights of the parties, the facts of the case, and, at least sometimes, the wider merits". It also seems that a threat to use or disclose was good enough for the law to intervene. From the words in bold cited above in *Imerman*, a breach of confidence may be established on threats to infringe on another's right of confidentiality and relief would similarly be granted to restrain these threats. Such robust application of the law of confidence was justified for two reasons:

(a) The reasonable expectation of privacy must be upheld. Because the case arose in the family context, the confidential information specifically concerned the husband's private life and was covered by the right to respect private life in Art 8 of the European Convention on Human Rights. It should be noted that, since the House of Lords decision in *Campbell v MGN Ltd* [2004] 2 AC 457, the right to respect private life has been incorporated in the English law of confidence: see [65].

(b) The unauthorised acts of the defendant must not be allowed to undermine the confidentiality of the information. If the defendant threatens to use or disclose the confidential information, he could be enjoined from doing so. If the information is already "out there" in the possession of one who should not have it, then a court order could be obtained to have it returned or destroyed: see [72]–[73]. It appears that the court was fully prepared to protect a plaintiff against the risk of loss of confidentiality.

204 Most interestingly, the court did not view its decision as representing a new authority in English law that an injunction is available even in circumstances when the confidential information was not yet used. As Lord Neuberger of Abbotsbury MR observed at [71], it is not the position in English law that there has to be such misuse before a claim for breach of confidence can succeed.

205 I pause now to observe that, in both Australia and England, the courts recognised that a person who had received or taken confidential information, and had notice of its confidentiality, should not be allowed to act in a manner which is inconsistent with the plaintiff's right of confidentiality. While it is commonly the case that use and disclosure of the information constitutes a breach of his obligation of confidence, the courts have accepted that accessing, acquiring or threatening to abuse the confidential information may also form a breach of confidence. The turning point for this development seems to be an awareness that an obligation of confidence is ineluctably shaped by the particular facts of the case. I can imagine that the relationship between the parties, the manner in which confidential information was obtained, the measures taken to safeguard confidentiality, *etc*, would define the boundary of the defendants' obligation of confidence and, in turn, affect the analysis of whether the obligation was indeed breached. Thus, whether there has been breach of confidence appears to be a question of fact and degree that must be regarded in its wider context.

206 Whilst it is not necessary for this court to reach a conclusion on whether the taking of documents by the defendants is a breach of confidence, I am minded to observe that the defendants have acted wholly inconsistently with their obligations of confidence to Clearlab. I return to the circumstances in which the documents were taken out of Clearlab. First, the sheer number of documents taken suggests that the ex-employees were taking the documents, not for the purposes of their work at Clearlab, but for accumulating documents to be potentially used at Aquilus. Ting

admitted that the documents were taken for "reference". [\[note: 91\]](#) David similarly passed on certain documents on SOPs and OIs to Sara for "reference". [\[note: 92\]](#) From the way the defendants handled Clearlab's documents prior to leaving Clearlab and after they started work for Aquilus, it is clear that the documents were treated as a resource that the defendants can freely use. Second, each of the ex-employees was in breach of cl 3 of their employment contract when they retained the confidential documents after their employment with Clearlab ended. The reasons for the breach of cl 3 are given below at [265]–[268]. The point being made now is that the ex-employees were not entitled to keep the confidential documents, much less use them for the benefit of Aquilus. The flagrant breach of contract would bolster a case that the defendants had, in the first place, surreptitiously acquired the documents without Clearlab's consent.

207 According to the above principles, it would appear that the defendants breached their obligations of confidence to Clearlab in respect of the whole lot of documents that they had taken out of Clearlab. It is hardly an answer to a claim in confidence that certain documents in the defendants' collection of Clearlab's documents were not actually used when each of these documents was wrongfully taken with the intention of using them. At its heart, the action for breach of confidence is to vindicate Clearlab's right to preserve the confidentiality of its documents. To accept the defendants' piecemeal analysis why certain documents cannot be used or to ignore that further use was prevented because of the timely interim injunction, and therefore decline to protect the documents that were not used, would undoubtedly do violence to Clearlab's right of confidentiality. Thus, insofar as the documents can properly be regarded as confidential and were wrongfully taken from Clearlab with the view of using them, it would seem that there was a breach of confidence.

(4) Toh's mould base design

208 Before leaving the breach of confidence action against the defendants, there is one final issue relating to the mould base design used at Aquilus. Clearlab argued that Toh from TRAXonline Solutions LLP copied features from the mould base design that he carried out for Clearlab in the mould base design that he later did for Aquilus. The way in which Clearlab put its case was as follows. When Toh designed the mould base for Clearlab's moulding line "D", he incorporated the best features from two of Clearlab's existing mould base designs, which were known as the 1-Day mould base and the FRP mould base. In cross-examination, Toh was directed to look at the 1-Day mould base, the FRP mould base and the new "D" mould base. Counsel for Clearlab pointed out that admissions were made by Toh that there are similarities between Clearlab's existing mould bases and the "D" mould base that Toh designed for Clearlab. For example, both the FRP mould base and the "D" mould base had four cavities, a cooling channel, and a flat lock pin. [\[note: 93\]](#) Next, counsel asserted that that Clearlab's and Aquilus' mould base designs were essentially the same.

209 However it seemed to me that there was a missing step here. Even assuming that features from the 1-Day mould base and the FRP mould base were incorporated in the "D" mould base, it was not clear if they were also incorporated in Aquilus' mould base. Further, there were alleged differences between the Clearlab's and Aquilus' mould bases which, if true, would directly rebut Clearlab's assertion that certain features of Clearlab's mould bases were replicated in Aquilus' mould bases. For example, Toh's evidence was that the hot runner in the mould bases was different because Clearlab used a Mold Master X-design, whereas Aquilus used a Husky H-design. [\[note: 94\]](#)

210 The key question that arose here was whether Aquilus' mould base design incorporated Clearlab's confidential information. Looking at the limited evidence before me, I was unable to find that this was the case. Clearlab was therefore not entitled to a remedy in respect of the mould base design that Toh designed for Aquilus.

211 I come now to the alleged breach of confidence by Ma and Li. This claim was mounted in respect of the supply of spin-cast machines by Optic to Aquilus. Such spin-cast machines essentially handled two steps of the manufacturing process; first, the spinning of lens monomer in mould casts and, second, the polymerisation of the lens monomer by exposing it to UV light.

(1) Scope of Clearlab's confidential information

212 It should be recalled that Clearlab had no standing to sue in respect of the information that arose from Ma's work for Clearlab. Thus, the breach of confidence claim against Ma and Li was confined to the information originating from Clearlab that was disclosed in confidence to them.

213 The first step was to identify the information that was disclosed. There were two separate circumstances under which Ma received information. The first was when he was tasked with repairing and modifying the Dual Spinners at Clearlab. It was undisputed that Ma had made detailed drawings of the unmodified Dual spinners and was told the problems encountered with those Dual Spinners. The second was when Ma designed the Quad Spinner for Clearlab. This posed some evidentiary difficulty for Clearlab as Ting seemed to be the only person at Clearlab who had dealt with Ma in respect of his work on the Quad Spinner. I noted that Dr Park had the impression that Ting alone liaised with OSC and was personally unaware if any design specifications or details were given to Ma. [\[note: 95\]](#) Dr Park was therefore in no position to contradict Ma's testimony that he had not received any design input from anyone from Clearlab. [\[note: 96\]](#) So based on Ma's evidence, in total, he was given:

- (a) full access to Dual Spinner;
- (b) a sample of the plastic casts to measure; and
- (c) some instructions on what the proposed spin-cast machine should have, which were: [\[note: 97\]](#)
 - (i) variable spin-speed between 200rpm to 800rpm;
 - (ii) eight to ten spin tubes using one shared drive motor;
 - (iii) adjustable UV fluorescent tubes with variable exposure timings; and
 - (iv) nitrogen-gas flow control.

214 Amongst these broad categories of information, I accepted that the details of the unmodified Dual Spinner in Clearlab (*ie*, category (a)) and the measurements taken of Clearlab's casts (*ie*, category (b)) were protectable as confidential information.

(A) Ting's instructions

215 The instructions given by Ting (*ie*, category (c)), however, appeared to be too broad to be capable of being protected as confidential information. In *De Maudsley v Palumbo and others* [1996] FSR 447 ("*De Maudsley*"), an idea for a dance club was held not to be protectable because its five composite elements were, individually or combined, far too vague and/or unoriginal to constitute confidential information. For ease of comparison, the unprotectable elements in *De Maudsley* are (a)

the club would operate all night long, (b) the decor would be of "high tech industrial" warehouse style, (c) there would be separate areas for dancing, resting and socialising as well as a VIP lounge, (d) the acoustic design for the enclosed dance area would prevent sound, light and atmosphere to leak beyond the area, and (e) top disc jockeys would appear at the club. I found that there was a similar level of generality about Ting's instructions to Ma that was fatal to a claim to their confidentiality.

(B) Unmodified Dual Spinner

216 As such, Clearlab's case rested on the information contained in the Dual Spinner and the plastic casts (*ie*, categories (a) and (b)). What Clearlab must show was some significant fingerprints of copying reflected in certain details of the Lens Forming Machine that could only have come from the Dual Spinner or the sample of plastic casts given to Ma. As a preliminary note, because Clearlab analysed its confidentiality claim first in terms of the similarities between the Dual Spinner and the Quad Spinner, and then in terms of the similarities between the Quad Spinner and the Lens Forming Machine, it was difficult to reconcile which elements of the Dual Spinner was confidential, divulged on trust to OSC to be used for the restricted purpose of designing and building the Quad Spinner and used in breach of confidence to make the Lens Forming Machines in Aquilus.

217 Nevertheless, from Clearlab's submissions, there seemed to be three main aspects of or relating to the Dual Spinner that were said to be copied over to the Lens Forming Machines:

(a) Design improvements informed by the problems encountered with the Dual Spinner (such as the removal of quartz tubes because of the occurrence of breakage, the replacement of individual bearing housing with a single bearing plate to overcome re-alignment difficulties, and the usage of a belt-driven system instead of gears because gears experience more wear and tear).

(b) Careful selection of individual components and how they collectively form a workable machine. The emphasis is placed on the combination of all the individual components that form the design.

(c) Dimensions and specifications of the individual components.

218 As far as (a) is concerned, it seemed to be an alternative way of presenting the argument that the features in Ma's design were confidential to Clearlab. This argument did not go far because of the finding of fact made earlier, which was that Clearlab and OSC each retained its own confidential information. Therefore, Clearlab was precluded from claiming a breach of confidence based on the information generated by Ma.

219 As to (b), the challenge for Clearlab was to show that the combination of individual components in the unmodified Dual Spinner was used in the Lens Forming Machine. Ma and Li may not be liable if they had only used some of the components. This put Clearlab in an unusual position because its pleaded case was that there were problems with the unmodified Dual Spinner that Ma had solved by modifying some components. To the extent that Ma's solutions were carried over to the Lens Forming Machine, there were necessarily differences between the two spin-cast machines. This made it difficult for Clearlab to show that Ma had taken, in substance, the whole.

220 Even absencing these differences flowing from flaws in the unmodified Dual Spinner, there was scant evidence on how the combination of the components in the unmodified Dual Spinner was used in the Lens Forming Machine. Ma did admit to using the Quad Spinner design for the Lens Forming Machine, but that had little relevance unless it could be shown that the Quad Spinner was largely

identical to the unmodified Dual Spinner in terms of the combination of their components. There was an opinion from Clearlab's expert witness that the Quad Spinner was derived from the Dual Spinner because the form factors (or modular build-up) and eight interior characteristics of the Dual Spinner and the Quad Spinner were similar. However, there was some doubt as to this opinion because it seemed to have ignored features that were dissimilar, such as the increase in the width of the vertical rods in the Dual Spinner and the Quad Spinner. Therefore, I was not convinced, on a balance of probabilities, that Ma had indeed made use of that combination of the components in the unmodified Dual Spinner for the Lens Form Machine.

221 As to (c), the same issue with evidentiary proof surfaced. Clearlab had asserted that the specifications and dimensions of the individual components were confidential and that they were used in the Lens Forming Machine, but this assertion was not borne out from the evidence. For example, it was alleged that the inner diameter of the spinning column, which was dictated by the outer diameter of the mould casts, was copied. However, Ma's evidence was that there was a difference in the size of Clearlab's and Aquilus' casts, and therefore a difference in the inner diameters in the spinning columns in the Quad Spinner and the Lens Forming Machine. For the Quad Spinner, the inner diameter was said to be 25.4mm because the largest outer diameter of all the mould casts that Clearlab had given him to measure was 25.385mm. To get 25.4mm from 25.385mm, Ma explained that he would add an allowable gap of 0.015mm. This was the space between the mould cast and the wall of the spinning column when the mould cast was fitted into the spinning column. In contrast, for the Lens Forming Machine, Ma stated that the inner diameter was 25.35mm because Aquilus had stipulated that its casts' outer diameter would be 25.335mm. While Clearlab disputed that Ma had used the measurement of 25.385mm for Clearlab's Quad Spinner (there was some suggestion that the 25.335mm was in fact used because Wong, Clearlab's engineering manager, testified that the outer diameter of Clearlab's casts was 25.335mm), [\[note: 98\]](#) I was not shown any evidence that the inner diameter of the Quad Spinner was not 25.4mm but 25.35mm. In the end, Clearlab had not proven that its confidential dimensions were embodied in the defendants' Lens Forming Machine or that Ma copied its dimensions and specifications. There was therefore no breach of confidence under this head as well.

222 More generally, Clearlab suggested that Ma and Li would not have been able to make any spin-cast machines if they had not seen Clearlab's Dual Spinner because a spin-cast machine was a very specific application with specific issues. But I was not persuaded by this argument. First, there were patents on spin-cast machine which showed some features that a spin-cast machine should have. For example, US Patent No 4,732,714 discloses that there should be a vertical spin tube to hold the mould casts in a column, a system of bearings, pulleys and belt that is driven by a motor to spin the tube, as well as the use of inert gas to remove oxygen and UV light for curing. [\[note: 99\]](#) Second, Clearlab acknowledged that Ma may have experience in designing machines more complicated than the Quad Spinner. Third, the defendants' expert witness opined that the functionalities of a spin-cast machine drive its design features, thus an understanding of these functions would lead Ma to the appropriate design. It was therefore not shown, on a balance of probabilities, that Ma could not have created a Lens Forming Machine without having seen Clearlab's Dual Spinner.

223 All in all, the breach of confidence action mounted against Ma and Li has failed. It followed that the reliefs sought against Ma and Li, insofar as they pertained to the confidential information in the Dual Spinner, Quad Spinner and Lens Forming Machine, would not be granted.

Conspiracy by unlawful means

224 Clearlab had also claimed that all the defendants were engaged in a conspiracy to breach Clearlab's rights of confidentiality. There were two separate allegations made. The thrust of the first

allegation was that all the defendants and/or Toh had combined to steal Clearlab's confidential information and use it in Aquilus ("the First Conspiracy Claim"). The thrust of the second allegation was that Ma, Li and Ting, as well as the firms that they operated, OSC and Optic, had conspired to sell spin-cast machines to Aquilus that contained Clearlab's confidential information ("the Second Conspiracy Claim").

The First Conspiracy Claim

225 At its heart, the First Conspiracy Claim was grounded on the coordination amongst all the defendants to replicate Clearlab's manufacturing processes in Aquilus. There was ample evidence supporting the existence of a plan to set up a competing business using Clearlab's confidential information, and its execution by certain defendants. I had no difficulty in holding that the claim was made out against these defendants. What Clearlab did not satisfy me was that all of the defendants and Toh were implicated. On the facts before me, the claim could only be sustained against the ex-employees, Ho and Aquilus. Nothing turned on the conduct of the sixth to eighth defendants and Toh. There was no evidence that they were participants in the conspiracy. The reasons are as follows.

The facts

226 The undisputed facts were that, at the inception of Aquilus, Ho came up with \$200,000 for Aquilus' start-up capital and had included, as one of Aquilus' principal activities, the manufacturing of optic goods. Ho said that by October 2010 he had decided that Aquilus would manufacture contact lenses. In December 2010, Aquilus committed to lease 13,000 square feet of factory space at \$15,000 per month for at least two years. This represented a commitment of \$360,000. Further costs, estimated at \$2m, were spent on machinery. In early 2011 Aquilus had started paying rent and placing orders for machinery even though it did not have a single employee on its payroll with the technical know how to make contact lens. It should be recalled that Ting only started working full-time at Aquilus on 3 May 2011, and David, Goh and Ng started even later on 1 August 2011. This meant that Ho had ventured into the business of contact lens manufacturing and had committed to a sizeable investment without any technical ability for it. For months, there was no one in Aquilus who could actually manufacture the contact lens. This did not accord with Ho's testimony that he had planned to recoup his investment in merely three years by selling a targeted one million contact lenses per month. [\[note: 100\]](#)

227 The evidence that then emerged pointed to Ho being assured that he had procured the technical expertise that would enable him to implement his business plan within a very short time. First, Ho displayed a lackadaisical attitude towards hiring the "technical people". His evidence was that, for the whole of 2010, apart from approaching Ting, he did not look for any other person. He said that in 2011, he persisted in persuading Ting to join and that he received a hint from Ting that he would join in March. That was also when Ting started attending Aquilus meetings even as he was still working in Clearlab; Ting did not leave Clearlab until April 2011. Then from March to May 2011, Ho reverted to passivity and said he did not look for any employees. Second, when Ho was asked of his contingency plan in the event that the ex-employees refused to join Aquilus, he initially stated that he could get CIBA Vision employees to join Aquilus. But he immediately changed his position to state that he could easily hire the right people for Aquilus: [\[note: 101\]](#)

Q: Besides Mr Ting, you didn't have a plan B?

A: As I told you, we know CIBA Vision, a lot of people who are there, even those out -- we can't get Mr Ting, I still believe we can get people from CIBA Vision.

Q: So are you telling this court that CIBA Vision would be your plan B?

A: How can CIBA Vision be my plan B?

Q: If you don't get Mr Ting, who are you going to get? Who is going to run this engineering plant for you, bearing in mind that neither you nor Mr Santos has any experience making contact lenses? So if Mr Ting were to say no to you, what would you do, would you go to CL Tech, would you go to CIBA or what?

A: We would start to look for people.

Q: So you didn't have a plan about B?

A: No, we have -- I believe it is a matter of you hire people only.

228 It was clear from the evidence that Ho did not have a contingency plan; he did not need one because he had the assurance that the ex-employees would join Aquilus. As it turned out, this belief was neither misconstrued nor misplaced as each of the ex-employees did join Aquilus.

229 I turn to consider the conduct of Ting. It seemed clear to me that his involvement with Aquilus began even while he was still employed in Clearlab. Starting from 7 March 2011, the undisputed evidence was that Ting attended Aquilus meetings and was assigned tasks to carry out, such as giving his input on the SPRING seed funding proposal, [\[note: 102\]](#) preparing the product information for packaging, [\[note: 103\]](#) following up on a quotation for six units of spin-cast machines, [\[note: 104\]](#) obtaining a quotation for air compressor, [\[note: 105\]](#) obtaining a quotation and samples for PET vacuum form tray and packaging, [\[note: 106\]](#) assisting in the drafting of the ISO quality manual, [\[note: 107\]](#) sending across information on CE mark, [\[note: 108\]](#) reverting with a material list, [\[note: 109\]](#) making revisions [\[note: 110\]](#) and confirming the radius [\[note: 111\]](#) of the mould base design, providing full support for ISO certification to Aquilus, [\[note: 112\]](#) and conducting product training for Aquilus staff. [\[note: 113\]](#) All these were assigned to Ting while he was still paid a salary by Clearlab, the entity that Aquilus was in direct competition with. In light of the number of tasks that was assigned to Ting, his strenuous assertion that he was only attending the meetings as a "visitor" was scarcely believable. While Ting also denied doing any of the assigned tasks until 19 April 2011, [\[note: 114\]](#) the minutes of meeting painted a different picture. They showed that his task list was updated at each meeting; certain tasks that he was assigned earlier did not feature in the minutes of subsequent meetings. New tasks were assigned to him at various meetings. For example, in the meeting on 14 March 2011, one of Ting's task was to await the quotation for "Spinner (6 units)". [\[note: 115\]](#) Two weeks later, in the meeting of 28 March 2011, Ting was to revert on the status of the spinner. [\[note: 116\]](#) In addition, he was given a new task of obtaining a quotation for an air compressor to compare with a quotation that Aquilus had received. [\[note: 117\]](#) This suggested that Ting had completed some tasks and that he was entrusted with more to do. Further, Ting admitted to have helped [\[note: 118\]](#) prepare a seed funding proposal that was submitted to SPRING Singapore in the first week of March 2011. There was a whole host of evidence showing that, from at least early March 2011, while still employed by the Clearlab, Ting had a central role in the establishment of Aquilus.

230 The evidence also showed that Ho had heavily relied on Ting's expertise and experience to get production up very quickly. Thus, the SPRING seed funding proposal [\[note: 119\]](#) which was prepared in

March 2011 made claims that Ting was Aquilus' technical director, even though he was still employed by Clearlab. From this evidence, it seems Ting's position in Aquilus was already secured at the very latest, by March 2011.

231 As for David, Goh and Ng, sometime in early May, Ting contacted each of them [\[note: 120\]](#) and secured their consent to work for Aquilus. David signed a letter of offer from Aquilus on 9 May 2011, and Goh and Ng signed theirs, one day later, on 10 May 2011. [\[note: 121\]](#) Towards the end of the month, they resigned from Clearlab; David resigned on 26 May 2011, Goh, on 30 May 2011, and Ng, on 25 May 2011.

232 A fact that leapt out of the evidence was that, after tendering their resignation to Clearlab in late May 2011, David and Goh accessed various documents in Clearlab on topics ranging from SOPs to material specifications. The nature of such access was that all documents were accessed within seconds and minutes from one document to the next. [\[note: 122\]](#) Such speed suggested that they were trawling through Clearlab's collection of documents rather than reading those documents. Combined with the evidence of the huge number of Clearlab's documents found in Aquilus' computers and storage devices, the clear inference was that David and Goh had downloaded those documents for the benefit of Aquilus.

233 In the case of Ng, confidential documents, such as those relating to the production output of Clearlab's daily lenses, were emailed by him to his personal email account. [\[note: 123\]](#) These emails were mostly sent after the date of his resignation from Clearlab. Further, Ng admitted to doing "housekeeping" of his Clearlab emails before leaving Clearlab, which involved and forwarding those that appeared useful to his personal email account. [\[note: 124\]](#)

234 It was clear from the evidence that David, Goh and Ng had intended to take and did take the pertinent confidential information out of Clearlab before their two-month notice period ended. They had collected such documents from Clearlab as they had felt could be needed for the various processes, such as validation and design. As for Ting, his employment at Clearlab was terminated on 26 April 2011 and so he relied on David to send him the necessary information. From 27 May 2011 to 1 July 2011, Ting directed David to send him specific documents, and David complied. [\[note: 125\]](#) The combined efforts of the ex-employees culminated in the passing of a substantial number of Clearlab's documents to Aquilus. These include the full suite of Clearlab's lens formulations, [\[note: 126\]](#) and the parameter settings for the Optoform 80 machine. [\[note: 127\]](#)

235 On 17 October 2011, the first day of the search, what was clear was that Ho and the ex-employees had quickly deleted documents. Ho, in a span of minutes, deleted some 13,000 documents from Aquilus' server. [\[note: 128\]](#) Ting and David deleted Clearlab's documents from their Aquilus desktops. [\[note: 129\]](#) David even got his wife to delete documents in his home desktop. [\[note: 130\]](#) Ng, after reaching home that very night, deleted the emails that contained Clearlab's documents. [\[note: 131\]](#) I found that Ho and the ex-employees knew what they did was wrong and were desperately trying to remove evidence of what they had done. This reinforced the inference that they had earlier planned to take and succeeded in taking confidential documents out of Clearlab.

The applicable law

236 The elements required to establish a conspiracy by unlawful means are set out in *EFT Holdings, Inc and another v Marinteknik Shipbuilders (S) Pte Ltd and another* [2014] 1 SLR 860 ("*EFT Holdings*")

at [112]:

- (a) there was a combination of two or more persons to do certain acts;
- (b) the alleged conspirators had the intention to cause damage or injury to the plaintiff by those acts;
- (c) the acts were unlawful;
- (d) the acts were performed in furtherance of the agreement; and
- (e) the plaintiff suffered loss as a result of the conspiracy.

All the elements were established with respect to Ting, David, Goh, Ng, Ho and Aquilus

237 As shown in [226]–[235] above, element (a) was borne out in that Ho and the ex-employees had agreed to act in concert to take Clearlab’s confidential information for the benefit of Aquilus.

238 The evidence also showed that the acts were performed in furtherance of that agreement, satisfying element (d).

239 Insofar Aquilus had acted through Ho and the ex-employees, it must also be liable as a co-conspirator. The acts that Ho and the ex-employees had taken were done on its behalf or in its interests. These acts, along with the knowledge of the ongoing conspiracy, may be attributed to Aquilus.

240 Having found elements (a) and (d), I turn to analyse elements (b), (c), and (e).

241 I also found that element (b) had been established by the evidence which showed that the conspirators had intended to injure Clearlab. By taking Clearlab’s confidential information and using them in Aquilus to set up a competing contact lens manufacturing business that directly competed with Clearlab in the same market, the conspirators had intended to injure Clearlab by causing a loss of its profit. In *Chew Kong Huat and others v Ricwil (Singapore) Pte Ltd* [1999] 3 SLR(R) 1167 the Court of Appeal found at [35] that damage to the plaintiff was a necessary corollary of the profit accruing to the defendant, a direct competitor. In that case, the court had no difficulty finding that there was an intention to injure the plaintiff in those circumstances.

242 As for element (c), one of the means employed by the ex-employees, Ho and Aquilus was breach of confidence. While the scope of “unlawful means” for the purposes of conspiracy by unlawful means is yet to be settled (see the remarks of the Court of Appeal in *EFT Holdings* at [91]–[93]), in *Faccenda Chicken (Ch)* at 602, Goulding J accepted that a breach of confidence could form the requisite unlawful means for establishing a conspiracy by unlawful means. This is implicit from the way Goulding J proceeded to determine whether the claim of conspiracy can be made out by analysing if the wrongful act (*ie*, the abuse of confidential information) by itself was actionable or if there was a sole or predominant purpose to injure the plaintiff.

243 As for the last element, (e), Clearlab submitted that it suffered loss as a result of the defendants’ wrongful combination, and that its losses were the significant legal and professional fees that Clearlab had to incur in prosecuting this action and the management time that has been diverted away from its business. While it is not clear that all of the above losses are the kinds of loss relevant to the tort of conspiracy by unlawful means, based on the relevant legal authorities before me, I

accept at least that the loss required in element (e) has a broad scope. It can consist of the expense in unravelling and detecting the unlawful machinations of the defendants (*British Motor Trade Association v Salvadori and others* [1949] Ch 556 at 569) or the cost of managerial and staff time spent in investigating, or mitigating the consequences of, the conspiracy (*Lonrho Plc and others v Fayed and others (No 5)* [1993] 1 WLR 1489 at 1497. In this connection, I observed that Clearlab had expended money to have IT forensic experts uncover what the confidential documents that the ex-employees had taken were, and significant time and effort had been expended to analyse what of its information had been illegitimately used in Aquilus. These flowed from the conspiracy and may constitute the damages required in element (e).

244 In light of the above, I concluded that the ex-employees, Ho and Aquilus joined in a conspiracy to injure Clearlab by unlawful means. They all had the same objective of taking and using confidential information belonging to Clearlab for the benefit of Aquilus. In carrying out those acts, they had committed a breach of confidence and caused injury to Clearlab. Accordingly, their liability under this tort is complete.

Central Global, Ma, Li and Toh were not involved

245 In contrast, there was no evidence that the sixth to eighth defendants and Toh were associated in the combination. According to Clearlab, each of them had specifically brought Clearlab's confidential information to Aquilus. Their individual roles were highlighted to me. The sixth defendant, Central Global, was in charge of collecting the layout of Clearlab's premises, which it had access to when it performed the 49 cases of remodelling and repair works for Clearlab. The seventh and eighth defendants, Ma and Li, were tasked with supplying Aquilus with Quad Spinners. Finally, Toh was responsible for supplying Aquilus with a mould base that bore the same features as Clearlab's.

246 But there was insufficient evidence that their acts were a step in the execution of the common wrongful purpose. The essence of conspiracy is a combination (*ie*, element (a)); if it cannot be shown that a defendant had an intention to join the conspiracy or was a party to the combination, then that is fatal to the allegation of conspiracy.

247 In relation to the claim against Central Global, Clearlab submitted that Central Global was Ho's corporate vehicle. However, it could not be inferred that a company is participating in a conspiracy simply because it is related to another defendant who is party to the conspiracy. The inclusion of Central Global as a co-conspirator was therefore without merit. In relation to the claim against Ma and Li, Clearlab submitted that there was a financial arrangement in place amongst Ting, Ma and Li such that Ting would somehow benefit from the profits of OSC and Optic. But, crucially, Clearlab did not furnish any evidence to show that Ma and Li were aware of a plan to take confidential information out of Clearlab for the benefit of Aquilus. While I accept that a conspirator need not be aware of all the details of a conspiracy, I would think that the conspirator must at least know of its general nature and has agreed to it by taking action in pursuit of it. In fact, Ma and Li seemed to be ignorant of the plan, which meant that it was impossible that they have agreed to it. Further, the allegation that there was a financial arrangement amongst Ting, Ma and Li involved a great conjectural leap and was not bridged by cogent evidence. The same allegation was made and elaborated in the Second Conspiracy Claim; as such, I have given my reasons for rejecting it at [255] below.

248 To summarise, the existence of any combination cannot be inferred from the objective facts and the claim of conspiracy against the sixth to eighth defendants and Toh must fail.

The Second Conspiracy Claim

249 The Second Conspiracy Claim can be dismissed for the simple reason that I have earlier held that there was no breach of confidence in Ma's and Li's supply of the Lens Forming Machine to Aquilus. As it was not shown that there was any element of unlawfulness involved in this claim of conspiracy by unlawful means, the claim necessarily fails.

250 Nevertheless, I will consider, briefly, Clearlab's arguments. There were two main pegs on which the allegation of the Second Conspiracy Claim was hung.

251 First, it was contended that Ma and Li set up Optic as a smokescreen to conceal that they had sold what was essentially the same Quad Spinner to Aquilus. It should be recalled that the Quad Spinner was sold to Clearlab under the banner of OSC, and that Optic was only set up later to supply Lens Forming Machines to Aquilus. Clearlab emphasised that Optic was not treated separately from OSC because:

- (a) The accounts of Optic and OSC were commingled: not only was the starting balance of \$500 in Optic's account transferred from OSC's account, [\[note: 132\]](#) \$60,000 was also taken from Optic's account to reimburse Li for the top-up [\[note: 133\]](#) that she made to OSC's account (so that OSC can refund to Clearlab for the cancelled order for a cartoning machine).
- (b) The email address used by Li to send Optic's quotations to Aquilus was her OSC email address. [\[note: 134\]](#)
- (c) Most importantly, it was the same person, Ma, who designed the spin-cast machines for Clearlab (in OSC's name) and for Aquilus (in Optic's name).

252 However, I was unable to infer from the setting up of Optic that Ma and Li combined with Ting for some wrongful purpose. No one disputed that Optic was set up so that Ma and Li could distance themselves from OSC when supplying to Aquilus. As mentioned at [58], Li frankly stated that she recognised that Clearlab would terminate their relationship if it learnt that OSC was supplying machines to Aquilus, a competitor, because she herself had previously stopped working with a vendor who did work for her competitor. [\[note: 135\]](#) In other words, Li's evidence was that Optic was a front to show to Clearlab that OSC was not supplying to its competitor in order to retain Clearlab as a customer. I accepted her evidence in this regard. I found that it cohered with her conduct of setting up Optic to give an outward appearance of two separate firms, but not bothering to maintain separate accounts, email addresses or different teams of engineers to work on the machines. As such, I did not see how the mere existence of Optic showed that Ma, Li and Ting were in a combination.

253 I now turn to Clearlab's second contention, which was that Ting was given OSC's and Optic's bank account statements because he had a financial interest in OSC and Optic, and his furtive conduct in discarding the bank account statements in the night of execution of the search order served to strengthen the inference about his financial interest in OSC and Optic. Once again, the critical issue was whether the evidence about Ting's possession and subsequent disposal of OSC's and Optic's bank account statements showed that Ma, Li and Ting were in a combination.

254 On one hand, Ma, Li and Ting sought to explain that the bank statements were merely used to negotiate the price that Aquilus would pay for the Integrated Primary Packaging Machine ("IPPM"). On the other hand, Clearlab challenged this explanation as being riddled with inconsistencies. The main inconsistencies alleged were:

(a) In his AEIC, Ting said that it was Ma [\[note: 136\]](#) who provided him with the bank statements, but on cross-examination, Ting changed his tune and said it was Li [\[note: 137\]](#) who gave him the statements.

(b) Ting explained that Li wanted to show their “cash flow tightness” [\[note: 138\]](#) but:

(i) this was not borne out from the bank statements because the bank statements showed a positive balance every month, and in the month of April 2011, the average balance even exceeded \$63,000; [\[note: 139\]](#) and

(ii) this was a new explanation Ting offered on the stand: the explanation given by Ting in his AEIC was simply that losses were suffered as a result of Clearlab’s cancellation of its order for the cartoning machine and the bank statements were used to prove the operating costs and the amounts that were spent buying materials to make the cartoning machine.

(c) Ting’s further explanation that the bank statements were used to show that Li had not overcharged Aquilus in the past [\[note: 140\]](#) was also not in his AEIC and did not make sense because:

(i) the bank statements did not show if a particular machine was overpriced; and

(ii) the more logical thing for Li to do was to show Ting the invoices from the vendors or a costing statement for each machine, such as the one that Li came up with for the Quad Spinner. [\[note: 141\]](#)

(d) Li’s explanation that she did not show Ting the invoices because she did not want to let him know who her suppliers were was contradicted by her own handwritten notes on the bank statements which listed at least one of her suppliers (eg, in the 27 December 2010 entry, “Misumi” was recorded as having supplied “17 sets [of] timing pulley”). [\[note: 142\]](#)

(e) Li initially gave a different reason for providing the bank statements to Ting in her AEIC: [\[note: 143\]](#) she stated that the bank statements were to demonstrate that OSC did not have sufficient funds to refund the sum of \$60,000 to Clearlab in respect of the cancelled order for the cartoning machine. This, however, would have been inconsistent with Ting’s testimony that the actual provision of the bank statements was in early September 2011 [\[note: 144\]](#) because OSC had already made the refund in March 2011. [\[note: 145\]](#) If not for the amendment of Li’s AEIC to state that the Ma and Li only “offered” to provide the bank statements at that time, there would have been a discrepancy in the accounts given by Ting and Li.

255 In light of the above, I accepted that serious doubt was cast on Ma’s, Li’s and Ting’s explanation that Ting possessed the bank statements solely for negotiating and discussing the price of the IPPM. Having said that, it did not necessarily lead to the conclusion that Ting had a financial interest in OSC and Optic, and therefore Ma and Li were involved in a conspiracy with him. Because even assuming that their explanation was false, it did not mean that there was a conspiracy. There was a significant gap between Ting’s possession of the bank statements and the further inference that he had a combination with Ma and Li which involved a financial arrangement amongst the three of them. While Ting had financially benefited OSC and Optic in some ways (eg, Ting had given OSC the job to construct the Quad Spinner and also referred Ho to Ma for the job to construct the Lens

Forming Machines), he had also taken certain actions which were financially detrimental to OSC. I refer to Ting's urging of Ma and Li to forgo the upfront payment of the cartoning machine when the order was cancelled. When Clearlab first notified Ma that it wished to cancel the order for the cartoning machine, it stated that the cancellation costs that it was willing to pay OSC were "not more than S\$28,000". Ma replied that he needed to charge \$30,000 to cover his costs. In a surprising turn of events, the email from Clearlab then stated: "Thank you for your final decision after Mr Ting approach [*sic*] for the cancellation of this equipment at no cost." [\[note: 146\]](#) Clearly, between these last two emails, Ting had successfully persuaded Ma and Li to accept Clearlab's cancellation without asking for recompense, which they would have been entitled to. This did not seem to me like an act of a person protecting his financial interest.

256 As such, after weighing the evidence before me, I was neither able to find that Ting had a financial interest in OSC and Optic, nor a combination amongst Ting, Ma and Li. The Second Conspiracy Claim correspondingly failed.

Breach of employment contract

257 The conduct of the ex-employees was also the subject of a series of claims for breach of employment contract. Ting was alleged to have breached clauses prohibiting him from soliciting Clearlab's employees and customers as well as a clause to serve Clearlab exclusively during the course of his employment. In addition, all the ex-employees were alleged to have breached: (a) a non-compete clause, (b) a "Return of Materials" clause, and (c) a duty of good faith and fidelity. As most of these clauses were drafted plainly and unambiguously, the issue of breach involved more or less a straightforward factual inquiry.

Clauses that Ting alone is alleged to have breached

Non-solicitation of employee clause

258 Clause 2(c) of Appendix A of the employment contract provided that Ting, for a period of time after the termination of his employment, was not to:

... directly or indirectly, employ, attempt to employ, negotiate, arrange the employment or engagement of any person, or solicit, induce or influence (or seek to induce or influence) any person to terminate or alter his/her employment or consultant relationship with [Clearlab], where such person is one whom, to his/her knowledge, is employed or engaged as a key Employee.

259 There were two points in this clause that needed to be clarified. The first was the period of restraint. In Ting's original employment contract, the period of restraint was stated to be six months. Sometime after Ting signed the employment contract, Clearlab's Head of Human Resource, Low Bee Hee ("Low"), informed Ting that there was a management decision to change the period from six months to two years. The hard copy of Ting's employment contract was therefore amended by hand on 14 October 2008, and Ting and Low countersigned against the amendment. In the present proceedings, the defendants emphasised in their pleaded defence that the amendment was done at the insistence of Clearlab. I recognised that this flagged a potential issue of whether the amendment was valid. But the issue did not arise, at least in respect of this alleged breach. The alleged acts of soliciting took place within one month of Ting's dismissal from Clearlab. As such, be the period of restraint six months or two years, if the allegations were proven true, Ting would have breached this clause.

260 The second was the definition of a "Key Employee". In cl 7(c) of Appendix A of the employment

contract, the meaning of "Key Employee" was stated to be:

... any employee of [Clearlab] who is or was (in the Period) employed to the knowledge of the Employees at management grade or in a senior capacity or in a capacity in which he/she has access to or obtained Confidential Information and in respect of whom the Employee exercise control or had managerial responsibility.

The crucial words were: "in respect of whom the Employee exercise control or had managerial responsibility". The "Employee" is defined as Ting in the preamble to the employment contract. The only question therefore was whether David, Goh and Ng were under the control or management of Ting. I found that this must be the case. As the Head of Engineering and Technology Development, Ting had purview over the work that David, Goh and Ng undertook in Clearlab. It followed that David, Goh and Ng were "Key Employees" for the purposes of cl 2(c) of Appendix A.

261 Turning now to the evidence, it was clear that Ting solicited David, Goh and Ng to join Aquilus. David, Goh and Ng individually confirmed that Ting had offered them a job at Aquilus in May 2011, [\[note: 147\]](#) which led to their signing of Aquilus' letter of offer on either 9 or 10 May 2011. [\[note: 148\]](#) Their evidence was not challenged by Ting. Accordingly, I found that Ting breached this clause.

Non-solicitation of customer clause

262 The next clause, cl 2(d)(i) of Appendix A of the employment contract, provided that Ting was not to:

canvass, call on to solicit any business from, seek to procure from any Customer within the Restricted Area and in respect of any Restricted Goods or Restricted Services, if the Employee has canvassed, called on or solicited business from or procured and accepted orders from or had any dealings or active involvement with that Customer during the Period ...

The sole piece of evidence adduced by Clearlab to show that Ting solicited one of its customers was an email sent by Loh Tang Meng (allegedly from Kwang Meng Co Pte Ltd, one of Clearlab's customers in China) to Dr Park saying that "Ting did give a call to our company informing that he is not with Clearlab and ask [*sic*] for possible business opportunity". [\[note: 149\]](#) The contents of the email, however, were inadmissible because Loh Tang Meng was not produced as a witness, and therefore the contents of the email were hearsay evidence. As there was no further evidence to show that Ting solicited a customer of Clearlab's, the claim that cl 2(d)(i) of Appendix A was breached had to be dismissed.

Exclusive service clause

263 Clause 11.1 of the employment contract provided simply that Ting shall not work for any other person during his employment at Clearlab. The words were:

The Employee shall not at any time during his/her employment hereunder except with the written consent of [Clearlab], engage, be concerned or interested in any other business, undertaking, activity, trade or profession or occupation whatsoever other than that of [Clearlab].

Clearlab submitted that Ting had breached cl 11.1 by attending meetings at Aquilus while he was still employed by Clearlab. Ting's attendance at these meetings began as early as 7 March 2011, and continued after the termination of his employment at Clearlab on 26 April 2011. Earlier, I have also held at [\[229\]](#) that Ting was not merely attending the meetings as an observer; he was also doing

work for Aquilus. In these circumstances, it was undoubtedly the case that Ting breached cl 11.1.

Clauses that all the ex-employees are alleged to have breached

Non-compete clause

264 Clause 2(a) of Appendix A of the employment contract stipulated that the ex-employees shall not for either six months or two years after the termination or expiration of their employment with Clearlab "carry on or be concerned, engaged, or interested in any part of trade or business which involves the manufacture, design, distribution, sale, supply or other dealings with the Restricted Goods" in any capacity in competition with Clearlab. For David and Ng, the period of restraint was two years. For Goh, it was six months. And for Ting, as mentioned earlier, it was either two years or six months. All the ex-employees commenced full-time work in Aquilus less than a month after leaving Clearlab. They had all breached the non-compete clause.

"Return of Materials" clause

265 Clause 3 of Appendix A of the employment contract required the ex-employees to return all property belonging to Clearlab and not to remove or destroy materials containing "Proprietary Information". The clause, in full, stated:

The Employee agrees that, upon the termination or expiration of the Employment, he/she shall immediately return to the Company all property in his/her possession, use or control, including all originals and any and all copies of any files, documents, computer disks, works and other materials containing any Proprietary Information or any Proprietary Information of any third party. The Employee shall not remove, or cause or permit the removal, from the Company's facilities, or carry out any unauthorized destruction of, any originals or copies of any files, documents, works and other materials containing any Proprietary Information or any proprietary information of any third party.

266 The term "Proprietary Information" was undefined in the employment contract. But given that the clause unreservedly sought the return of all property that Clearlab regarded to be its own, it would appear to encompass Clearlab's confidential information. Thus, read as a whole, I found that the clause prohibited the ex-employees from keeping, removing, destroying any material which contained its own or a third party's confidential information.

267 The most obvious breach of this clause was the amassing of Clearlab's confidential documents by the ex-employees for use in Aquilus. As was evident from the discussion on breach of confidence by the first to fifth and ninth defendants, each of the ex-employees had a hand in taking the relevant confidential documents from Clearlab and keeping them within reach while they were working in Aquilus. In particular:

(a) Ting admitted, at one point, that he did not return "[s]ome, not many" [\[note: 150\]](#) documents and, at a later point, that he had retained "one Clearlab file [which] is the quality plan file". [\[note: 151\]](#)

(b) David admitted that he took 1,500 documents from Clearlab. Although David asserted that many of these documents could be found in the public domain, [\[note: 152\]](#) I found that there were at least some, amongst the 1,500, which were confidential to Clearlab and retained by David for the purpose of being used in Aquilus.

(c) Goh agreed that the four insert blank drawings found in Nancy Looi's hard disk were the same as the ones he requested from Clearlab's document control department. [\[note: 153\]](#) This raised an inference that Goh had taken these drawings and uploaded them into the hard disk.

(d) Ng admitted that he emailed to himself:

- (i) production yield reports;
- (ii) quality non-conformance reports;
- (iii) HSA preparation of validation master plan;
- (iv) insert dimension data for Clearlab's daily lenses;
- (v) insert development data for Clearlab's daily lenses; and
- (vi) insert drawings for Clearlab's daily lenses

and that these documents were deleted after the execution of the search order. [\[note: 154\]](#)

268 In light of the above, it was clear to me that each of the ex-employees breached the "Return of Materials" clause. If there was any lingering doubt that the ex-employees breached their contract in failing to return confidential documents to Clearlab, it was put to rest by: (a) the fact that at least 299 Clearlab's documents made their way into Nancy Looi's hard disk, [\[note: 155\]](#) which could not have been obtained by anyone other than the ex-employees, and (b) the decision of Ting, David and Ho to delete documents in the midst of the execution of the search order, as that palpably suggested that Clearlab's documents were being kept by the ex-employees as at the date of the search order.

Duty of good faith and fidelity

269 Lastly, Clearlab submitted that the ex-employees breached a duty of good faith and fidelity. This was said to consist of an implied duty of fidelity as well as the express duties listed under cl 3.3 of the employment contract. It was essential to note that the duty of good faith and fidelity, whether as an implied term or expressly enshrined in cl 3.3, concerned the employee's conduct *vis-à-vis* the employer during the course of employment. Thus, only the particulars which relate to the ex-employee's conduct during their employment with Clearlab were relevant. I found that they involved two main types of conduct: (a) the acts of the ex-employees in taking confidential information from their ex-employer, Clearlab, with the intention to use it for their new employer, Aquilus, and (b) Ting's attendance at Aquilus' meetings whilst employed by Clearlab.

270 In relation to (a), since *Robb v Green* [1895] 2 QB 315 ("*Robb v Green*"), it is well-settled that the taking of an employer's confidential information for one's own benefit and to the detriment of the employer is a breach of good faith. Just as the defendant in *Robb v Green* was in breach for copying names and addresses of customers from the plaintiff's order-book in order to contact them and induce them to transfer their custom to him after his employment with the plaintiff ceased, the ex-employees in the present case were clearly in breach by taking confidential information from Clearlab in order to set up a competing business in Aquilus. The only difference between the two cases is that the court in *Robb v Green* had to resort to an implied term, whereas in the present case, there is no need to because cl 3.3(c) of the employment contract sets out the specific duty that was breached. Clause 3.3(c) provided that the ex-employees were "not to do and to exercise all reasonable endeavours to prevent there being done everything which may be prejudicial or detrimental to [Clearlab] or any

Group Company". That was undoubtedly breached by the ex-employees in taking Clearlab's confidential information with an intention of using it in Aquilus.

271 In relation to (b), there was an obvious failure by Ting "to devote the whole of his/her time, attention and abilities and the full benefit of his/her knowledge, expertise and skills in the proper performance of his/her duties" in accordance with cl 3.3(f) of the employment contract. For almost two months before the abrupt termination of his employment, Ting was splitting his time between Clearlab and Aquilus. The evidence was clear that Ting breached cl 3.3(f).

Breach of fiduciary duty

272 Aside from the contractual obligations, Clearlab submitted that a fiduciary relationship arose in the context of Ting's employment in Clearlab, and therefore he also owed fiduciary obligations to Clearlab. I pause here to make a brief observation about the imposition of an additional fiduciary duty on an employee, which is that it is the exception rather than the norm. For the court to regard that an employee is also a fiduciary, the employee has to be placed in a position where he must act solely in the interests of his employer: *University of Nottingham v Fishel and another* [2000] ICR 1462 at 1493E. The mere fact of an employment relationship is not sufficient to support the existence of a fiduciary relationship. Rather, it must be shown that there are particular functions of the employee, which requires him to pursue the interests of his employer to the exclusion of other interests, including his own: *Lonmar Global Risks Limited (Formerly SBJ Global Risks Limited) v Barrie West and others* [2010] EWHC 2878 (QB) at [152]. Until then, it may not be said that there are fiduciary obligations imposed upon the employer as a matter of equity in addition to the obligations that the employee already owes as a matter of contract.

273 The starting point therefore is the employment contract. It has to be shown that the employee in question is put in a situation where he is obliged to act solely for the benefit of his employer. But that is not the end of the story. Once a fiduciary relationship is found on the facts, there is further inquiry on whether it is engaged on the matters relied on by the plaintiff. There is no wholesale importation of every kind of fiduciary duty into each case, as that disregards what exactly it is about the particular employee's situation that makes him a fiduciary. Even if the facts do bear a fiduciary relationship, it must be examined, in the particular circumstances, what are the fiduciary duties that arise. In this connection, the employment contract is of central importance. The scope and the content of the fiduciary duties that may arise from the employment must be accommodated within the terms of the employment contract and must not alter its intended operation: *Hospital Products Limited v United States Surgical Corporation and others* (1984) 156 CLR 41 at 97.

274 Relatedly, care must be taken to delineate between contractual obligations and fiduciary obligations. Though both curtail what an employee may do, the latter is far more onerous. To quote Lord Wilberforce in *New Zealand Netherlands Society "Oranje" Incorporated v Laurentius Cornelis Kuys and another* [1973] 1 WLR 1126 at 1130: "A person ... may be in a fiduciary position *quoad* a part of his activities and not *quoad* other parts: each transaction, or group of transactions, must be looked at." It is the improper usage of one's position as a fiduciary to act contrary to the interests of one's employer, and not just disloyalty or dishonesty in general by the employee, that constitutes breach of a fiduciary duty.

275 A rough and ready guide to whether or not the imposition of a fiduciary obligation would be appropriate are the three characteristics identified by Wilson J (dissenting) in *Richard Hugh Frame v Eleanor Margaret Smith and another* [1987] 2 SCR 99 at [60] which were cited with approval by the Court of Appeal in *Susilawati v American Express Bank Ltd* [2009] 2 SLR(R) 737 at [41]:

(1) The fiduciary has scope for the exercise of some discretion or power.

(2) The fiduciary can unilaterally exercise that power or discretion so as to affect the beneficiary's legal or practical interests.

(3) The beneficiary is peculiarly vulnerable to or at the mercy of the fiduciary holding the discretion or power.

At the end, the foundation for fiduciary obligation is the parties' relationship. Factors such as ascendancy, vulnerability, and dependence which characterise the relationship will be important in deciding if one party does owe specific obligations to solely act in another's interest at all times.

276 With these principles in mind, I turn now to the parties' submissions. The argument that Clearlab ran was that Ting was a fiduciary by reason of: (a) his seniority in Clearlab, (b) his exposure to highly confidential information, (c) his involvement in top secret R&D projects, and (d) his power to hire and fire employees in the department he headed. Further, Ting was described as being third in command at Clearlab, *ie*, second only to Dr Park and Mrs Park. [\[note: 156\]](#) In contrast, the defendants argued that no one, other than Dr Park and Mrs Park, could possibly owe fiduciary duties. The defendants pointed out that Clearlab was entirely owned, managed and controlled by Dr Park and Mrs Park, and all other managers were subordinate to them. However senior Ting's position was, they argued, he could not be considered to be in the top rung of management because it comprised only Dr Park and Mrs Park.

277 The evidence showed that Ting had considerable autonomy in a number of aspects in his job at Clearlab. While he was the subordinate of Dr Park and Mrs Park, he had the power to make certain decisions for Clearlab, such as whom to hire or fire, which put him in a position to act for his own interests, at the expense of Clearlab's interests. Therefore, I am of the view that there was a fiduciary relationship between Ting and Clearlab.

278 This, however, did not mean that Ting owed fiduciary duties at large (on the basis that Clearlab had reposed trust in him on certain matters like hiring and firing), for there is no such principle in law. The real question was whether Ting owed specific fiduciary duties in the particular circumstances that Ting had acted against the interests of Clearlab. It bears repeating that, even though a fiduciary relationship arose in the context of Ting's employment, it did not mean that every kind of fiduciary duty was imposed on him. Whether a fiduciary duty, and if so, what fiduciary duty, was created depended on the particular circumstances, namely Ting's employment relationship with Clearlab. The fact that there existed a fiduciary relationship also did not automatically transmute Ting's contractual obligations into fiduciary ones.

279 Thus, to succeed in the claim for breach of fiduciary duty, Clearlab must show that Ting was under specific fiduciary duties and they arose because of the particular circumstances, which obliged Ting to act solely in Clearlab's interests.

280 First, it was alleged that Ting breached his fiduciary duties by working for Aquilus when employed by Clearlab. For example, Ting assisted Aquilus to draw up a funding proposal to SPRING Singapore and gave technical input on what equipment to buy and who to buy from. This had been held to be in breach of Ting's contractual obligations to Clearlab, *viz*, cll 3.3(f) and 11.1 of the employment contract. But I did not find that it was concurrently an abuse by Ting in his position as a fiduciary to Clearlab. Crucially, none of the three characteristics cited at [275] arose in the situation where an employee moonlighted on company's time for a competitor company. I found that it was a situation where the employee had failed his duty of good faith and fidelity owed to his employer. But

that duty should not be elevated into a fiduciary duty.

281 Second, it was alleged that Ting breached his fiduciary duties by failing to inform Clearlab of the existence of a competitor, Aquilus. But Ting was not even under a contractual obligation to disclose the existence of a competitor, much less a fiduciary one. It would be a better argument to say that Ting was under a fiduciary duty to disclose the existence of the competitor that he wrongfully assisted by using Clearlab's confidential information. That overlapped with the third allegation, and hence this will be dealt with below.

282 The third allegation was that Ting breached a fiduciary duty not to exploit any opportunity or confidential information. The nub of Ting's wrongdoing was that he misappropriated Clearlab's confidential information for use at Aquilus. Crucially, Ting had come by Clearlab's confidential information in his position as the Head of Engineering and Technology Development in Clearlab. Further, Ting was entrusted with managerial responsibilities to apply the confidential information for Clearlab's benefit. For example, his role at Clearlab involved overseeing the R&D activities in respect of Clearlab's products and machine development, and supervising the engineering and insert development. He would obviously have access to Clearlab's confidential information in order to perform his role. There was therefore an element of vulnerability as Clearlab depended on Ting to use its confidential information only for its benefit and not use it for a third party. In these circumstances, I agreed that Ting owed a fiduciary obligation not to exploit Clearlab's confidential information made available to him by reason of his position in Clearlab. It was breached when Ting took advantage of his position in Clearlab to further Aquilus' interest, *ie*, by copying and retaining Clearlab's confidential documents with the intention of benefiting Aquilus, as well as omitting to disclose such wrongdoing or the existence of Aquilus as the beneficiary of such wrongdoing. These acts and omissions formed a line of conduct whereby Ting placed Aquilus' interest above Clearlab's. Accordingly, Ting was in a breach of his fiduciary duty in this regard.

Secondary wrongdoing

283 The following three causes of action, which are (a) tort of inducing a breach of contract, (b) dishonest assistance, and (c) knowing receipt, have been labelled "secondary" because liability depended on there being committed a primary actionable wrong. The primary actionable wrongs so relied on are: (a) breach of Ting's employment contract, (b) breach of Ting's fiduciary duty, and (c) breach of trust by the ex-employees. The main question here was whether Aquilus or the other defendants alleged to be secondary wrongdoers have such degree of participation in the wrongful act of the primary wrongdoer which would make them also liable for the wrong. I will now deal with each secondary wrongdoing in the order they have been mentioned.

Tort of inducing a breach of contract

284 For the tort of inducing a breach of contract, Clearlab alleged that Aquilus, through Ho, induced Ting to act in breach of his employment contract with Clearlab. The resulting breaches, as found earlier, were of cll 3.3(c), 3.3(f), and 11.1 of the main body of the employment contract as well as cll 2(a), 2(c) and 3 of Appendix A of the employment contract.

285 The elements of the tort consist of knowledge of the existence of the contract, an intention to procure its breach, inducement, and breach. These elements are described in the following terms by Jenkins LJ in *D C Thomson & Co Ltd v Deakin and others* [1952] 1 Ch 646 at 697:

... first, that the person charged ... knew of the existence of the contract and intended to procure its breach; secondly, that the person so charged did definitely and unequivocally

persuade, induce or procure the employees concerned to break their contracts of employment with the intent I have mentioned; thirdly, that the employees so persuaded, induced or procured did in fact break their contracts of employment; and, fourthly, that breach of the contract forming the alleged subject of interference ensued as a necessary consequence ...

286 I begin with an analysis of the element of inducement, for that appears to be absent from the present case.

287 It should be fairly obvious that a plaintiff alleging the tort of inducing a breach of contract should identify the inducement and show that the defendant did in fact induce that breach. In *Lumley v Gye* (1853) 118 ER 749, Johanna Wagner, an opera singer, was induced to break her contract to perform exclusively at the plaintiff's theatre by the higher fee that the defendant offered her to perform instead at the defendant's theatre. In *Bents Brewery Co Ltd and others v Luke Hogan* [1945] 2 All ER 570, the managers of the plaintiff's public houses were induced to break their contractual obligation not to disclose confidential information by the defendant trade union officer's distribution of questionnaires. In each case, the act taken by the defendant to induce a breach is identified, and a causative link is drawn between that and the eventual breach by the contract-breaker.

288 Drawing back to the facts, there was some confusion over what had allegedly induced Ting to breach his contract (and therefore, also whether Ting was in fact induced to breach his contract). From what I understand from Clearlab's case, there were two versions of events. One version was that Ho incorporated Aquilus in July 2010, came up with the idea of setting up a business of manufacturing contact lens, and offered Ting 20% shareholding in Aquilus so as to incentivise Ting to join Aquilus. These shares were held by Ting's wife to avoid detection by Clearlab. In this version, the inducement was the 20% shareholding in Aquilus. The second version was that, prior to and the latest by the date of the incorporation of Aquilus, Ting had the idea of setting up a business of manufacturing contact lens. He conspired with the other defendants (including Ho) to put the idea into motion and, in pursuant of the conspiracy, caused Aquilus to be incorporated in July 2010. [\[note: 157\]](#) In this second version, there was no inducement by Aquilus; it was Ting's decision to breach his employment contract.

289 The upshot of either version of events was this: (a) Ting received shares from Aquilus (which were put in his wife's name), and (b) Ting received a handsome salary from Aquilus (albeit slightly lower than what he received from Clearlab [\[note: 158\]](#)).

290 What was not shown was whether Ting's breaches of his employment contract transpired because of an inducement by Aquilus (through Ho) or because Ting had an idea, approached Ho and convinced Ho to act in accordance with his idea. There was insufficient evidence to conclude whether Ho approached Ting or Ting approached Ho. Conceivably, there was even a third scenario: Ho and Ting discussed and simultaneously came up with the idea to do the acts that were in breach of Ting's employment contract. There was insufficient evidence to prove that the first scenario, not the second or the third scenario occurred. Therefore the claim under this cause of action had to be dismissed.

Dishonest assistance

291 The second claim, which is dishonest assistance, was made in respect of two types of breaches: (a) a breach of fiduciary duty by Ting, and (b) a breach of trust by David, Goh and Ng.

Ting's breach of fiduciary duty

292 To begin, it should be recalled that a number of fiduciary duties were asserted to be owed by Ting, but all were rejected, except for the fiduciary duty not to exploit Clearlab's confidential information acquired by reason of Ting's position in Clearlab. It flowed from this conclusion that the claim for dishonest assistance of Ting's breach of fiduciary duty was limited to the breach of this particular fiduciary duty.

293 Within this limited claim, two main forms of dishonest assistance were alleged. The first related to Ho's and Aquilus' assistance of Ting by promising him a higher salary and shares in Aquilus. The second related to David's, Goh's, Ng's, Ma's and Li's assistance of Ting by complying with his requests to obtain Clearlab's confidential information for Aquilus.

(1) Aquilus and Ho

294 As to the first form of dishonest assistance, the relevant facts were that, in December 2010 or January 2011, Ho offered to pay Ting \$1,000 more than what he was making in Clearlab [\[note: 159\]](#) (which did not materialise because a lower salary was eventually paid) and, in April 2011, Ho offered Ting shares in Aquilus. [\[note: 160\]](#)

295 Thus, one plausible argument was that Aquilus and Ho procured Ting's breach of fiduciary duty. But one would immediately see the fallacy of this argument. Because Clearlab relied on the same evidence that was used for proving the tort of inducing a breach of contract, it was susceptible to the same evidentiary weakness. As held at [288]–[290] above, the crucial fact of inducement was not established for the claim of the tort of inducing of a breach of contract because it was unclear whether Aquilus induced the contractual breaches or whether Ting independently decided to breach his contract. Similarly, here, it was unclear whether Aquilus persuaded Ting to take confidential information for its benefit in breach of his fiduciary duty or whether Ting, on his own initiative, did the same. It therefore cannot be said that Aquilus and Ho procured Ting's breach of fiduciary duty.

296 That said, I note that the test for dishonest assistance allows for a lesser degree of participation than that for the tort of inducing a breach of contract. It suffices that the defendant in question assists, as opposed to, induces the breach of fiduciary duty. The alternative argument therefore was that the offer of an attractive salary and shares in Aquilus to Ting assisted him to breach his fiduciary duty.

297 But even then, I could not see how the offer of a higher salary and shares in Aquilus assisted Ting to misappropriate Clearlab's confidential information in breach of his fiduciary duty. There was no evidence that a causal link could be drawn between one and the other. There is case law to the effect that the plaintiff must at least show some causative significance in the acts by the defendant (although he need not show the precise causative significance nor is it appropriate for the court "to become involved in attempts to assess the precise causative significance of the dishonest assistance": *Grupo Torras SA v Al-Sabah & anor* [2001] CLC 221 at [119]). But this is a case where there was no causative effect in the first place, so there was no assistance given by Aquilus and Ho, and therefore "the requirements of conscience [did not] require any remedy at all": *Brown & anor v Bennett & ors* [1999] BCC 525 at 533.

298 In summary, the allegation that Ho and Aquilus either induced or assisted Ting to misappropriate confidential information in breach of his fiduciary duty was not borne out on the evidence. The claim that Ho and Aquilus were liable for the dishonest assistance of Ting's fiduciary duty accordingly failed.

(2) David, Goh, Ng, Ma and Li

299 As to the second form of dishonest assistance, it was submitted that David, Goh, Ng, Ma and Li dishonestly assisted Ting to breach his fiduciary duty by complying with his request to misappropriate Clearlab's confidential information. In particular, it was submitted that David emailed Ting the confidential information that Ting asked for, Goh brought over the PET casts, Ng copied the parameter settings for the Optoform machine, and Ma and Li supplied the Lens Forming Machines. These were the factual matrix upon which dishonest assistance of Ting's breach of fiduciary duty was alleged.

300 But, pertinently, for the other defendants to have dishonestly assisted in Ting's breach of fiduciary duty, their acts must be referable to Ting's breach of fiduciary duty. Was that the case?

301 To answer the question, it was crucial to revisit the circumstances in which Ting was held to have owed a fiduciary duty not to exploit Clearlab's confidential information and how he breached it. At [282], it was held that Ting's fiduciary duty arose because he was able to obtain Clearlab's confidential information for his work as the Head of Engineering and Technology Development in Clearlab. Therefore, he owed a fiduciary duty to Clearlab to use the confidential information that he acquired in the course of his employment only for the furtherance of Clearlab's interests. This fiduciary duty was breached when Ting helped himself to Clearlab's confidential documents with the intention of using them in Aquilus.

302 From the description of Ting's breach of fiduciary duty, the answer was no. One could scarcely say that the defendants were assisting in Ting's breach of fiduciary duty (which he committed by misappropriating confidential information) by (in the case of David, Goh and Ng) also misappropriating Clearlab's confidential information or (in the case of Ma and Li) lawfully supplying Lens Forming Machines.

303 Further, it could not be said that a separate breach of fiduciary duty took place when Ting requested David, Goh and Ng to misappropriate Clearlab's confidential information. In order for Ting to be in breach of fiduciary duty by making those requests, it must be shown that Ting was abusing these powers that he possessed qua *fiduciary*. I did not think this was made out. By the time Ting made those requests, he was already dismissed from his position as the Head of Engineering and Technology Development in Clearlab. What had been shown was that David, Goh and Ng continued to associate with Ting, but they did so as co-conspirators. Each of Ting's request was made to further a conspiracy to use Clearlab's confidential information for the benefit of Aquilus, and they responded to him in the same light. In this context, one would not consider Ting to be still standing in the position of a fiduciary to Clearlab. His requests to David, Goh and Ng did not trigger a fiduciary duty because he was no longer acting on behalf of Clearlab or exercising any of the powers conferred upon him by Clearlab.

304 To conclude, David, Goh, Ng, Ma and Li had not dishonestly assisted in Ting's breach of fiduciary duty when Ting personally misappropriated confidential information from Clearlab during his employment. Post-dismissal, there was no breach of fiduciary duty for which David, Goh, Ng, Ma and Li could have dishonestly assisted in.

David's, Goh's and Ng's breach of trust

305 Separately, Clearlab also claimed that there was dishonest assistance of a breach of trust by David, Goh and Ng. The claim for dishonest assistance was parasitic upon a breach of trust by David, Goh and Ng, therefore it was crucial for Clearlab to first establish that David, Goh and Ng were trustees of Clearlab's confidential information that they had access to or made copies of, and they

had acted in breach of trust by obtaining such confidential information for Aquilus. Clearlab's argument was that the subject matter of the alleged trust was confidential information, David, Goh and Ng were its nominal owners (for they hold it as trustees for Clearlab), and Clearlab was the beneficiary. Put in this way, I could not see how a trust arose over Clearlab's confidential information. Unlike property, there is no concept of "title" in respect of information and, therefore, no segregation of legal and equitable titles for the purposes of a trust. Thus, even though David, Goh and Ng received Clearlab's confidential information, they were not its nominal owners. The disclosure of confidential information to them did not carry with it a bare title to the confidential information. Further, while David, Goh and Ng were bound to use Clearlab's confidential information only for Clearlab's benefit, these obligations arose as a matter of the law of confidence, irrespective of any existence of a trust over Clearlab's confidential information. The appropriate cause of action therefore appeared to be a breach of confidence as against David, Goh and Ng. Having received Clearlab's confidential information in circumstances of confidence, they owed an obligation of confidence to Clearlab not to use or disclose that information without authority. The obligation was breached when David, Goh and Ng took Clearlab's confidential information to Aquilus. Consequently, Clearlab was entitled to remedies available for breach of confidence to correct the injustice in relation to the unauthorised use or disclosure of its confidential information, and to restrain further breaches by them. Given such comprehensive rights, obligations and protection under the law of confidence, it was difficult to see how a trust could be superimposed on the framework already laid down by the law of confidence.

306 For these reasons, I was not persuaded that there was a trust over Clearlab's confidential information. It followed that there was neither a breach of trust by David, Goh and Ng, nor dishonest assistance by Aquilus of that breach of trust by David, Goh and Ng.

Knowing receipt

307 The claim for knowing receipt was premised on Aquilus having received Clearlab's confidential information which was traceable to: (a) a breach of fiduciary duty by Ting, or (b) a breach of trust by David, Goh and Ng. Notably, the subject matter of the knowing receipt claim was Clearlab's confidential information. But it is doubtful if confidential information is the kind of "property" contemplated in *Barnes v Addy* (1874) LR 9 Ch App 244 ("*Barnes*") when the cause of action of knowing receipt was first formulated. The exact words in *Barnes* at 251–252 are:

... But, on the other hand, strangers are not to be made constructive trustees merely because they act as the agents of trustees in transactions within their legal powers, transactions, perhaps of which a Court of Equity may disapprove, unless those agents *receive and become chargeable with some part of the trust property*, or unless they assist with knowledge in a dishonest and fraudulent design on the part of the trustees. [emphasis added]

308 The words in italics denote the requisite *actus reus* for knowing receipt. In the cases that follow, it was interpreted as "first, a disposal of [the plaintiff's] assets ... [and, second], the beneficial receipt by the defendant of assets which are traceable as representing the assets of the plaintiff": *El Ajou v Dollar Land Holdings plc and another* [1994] 2 All ER 685 at 700 per Hoffmann LJ. The general idea is that receipt must correspond to a disposal. But this is not true of information. First, the confidential information which is received by a defendant is not necessarily put beyond the reach of a plaintiff. Being capable of infinite replication, the confidential information need not leave the possession of the plaintiff when the copies passed into the hands of the defendant. Correspondingly, the defendant who received confidential information could not be wholly dispossessed of it. At most, he could be prohibited from using or disclosing it.

309 There are also wide ramifications for allowing knowing receipt in respect of information. An

illustration is useful here. If a person comes to know of information as a result of a breach of his fiduciary duty and he publishes the information as well as the facts of the breach of his fiduciary duty in a newspaper, it could mean that anyone who reads the newspaper is regarded as a knowing recipient. In turn, an unlimited number of defendants may be called upon to personally account for the information that was received. That would be a perversion of the cause of action of knowing receipt as propounded in *Barnes*.

310 Further, knowing receipt appears to be traditionally concerned with the preservation of property: see Peter Jaffey, "The Nature of Knowing Receipt" (2001) 15 *Trust Law International* 151. But confidential information is not subject to the same risks of dissipation. Rather, it is more concerned with the loss of confidentiality or further unauthorised dissemination. There are two entirely different considerations.

311 In light of the above, I did not accept that the meaning of "property" in knowing receipt could extend to confidential information. Accordingly, Clearlab's claim that there is knowing receipt of confidential information by Aquilus was dismissed. In any event, the claim for knowing receipt in relation to the alleged breach of trust by David, Goh and Ng must also be dismissed based on the earlier finding that there is no breach of trust.

Tort of conversion

312 The next claim is for the tort of conversion. There were two separate subject matters that were alleged to be converted: (a) the PET casts, and (b) a SolidWorks software licence. As a matter of law, the tort is committed when there is unauthorised dealing with the claimant's chattel so as to question or deny his title to it: *Tat Seng Machine Movers Pte Ltd v Orix Leasing Singapore Ltd* [2009] 4 SLR(R) 1101 at [45].

313 There is no question that there was an act of conversion with respect to the PET casts. Ting admitted that, after he had left Clearlab and whilst he was working at Aquilus, he had asked Goh to bring the PET casts to Aquilus with a view of using them "for testing the formulation", and that these PET casts were made at Clearlab by an employee called Oran Khamhomkul. [\[note: 161\]](#) Subsequently, PET casts were found at Aquilus' premises on the day of the search order, which signified that they were successfully brought over on Ting's instructions. I therefore found that Ting and Goh were liable personally and Aquilus vicariously in the tort of conversion for taking the PET casts.

314 As for the SolidWorks software licence, Clearlab submitted that Ting misappropriated its licensed copy of the SolidWorks software installed on Ting's personal laptop by not deactivating the software after he was no longer an employee of Clearlab. The activation history showed that the software was first installed on 9 July 2010 and remotely deactivated by the software vendor only on 31 May 2011, [\[note: 162\]](#) which was about a month after Ting was dismissed from Clearlab on 26 April 2011. Clearlab further submitted that its licensed copy of the SolidWorks software must have been used at Aquilus for a period of time because, until 12 December 2011, Aquilus did not purchase for itself the licence to use SolidWorks. [\[note: 163\]](#)

315 There were a number of fundamental issues with these submissions. First, the tort of conversion is traditionally confined to chattels, *ie*, it requires interference with tangible personal property rather than with intangible choses in action: see *OBG Ltd and another v Allan and others* [2008] 1 AC 1. A software licence is not a chattel and therefore traditionally not viewed as capable of being converted. But even assuming that a software licence can be converted, that depends on the terms of the licence to use. A licence that is "personal" to the licensee permits use only by the

licensee. A licence to use of this nature, being non-assignable, cannot be misappropriated. A licence to use that is proprietary, on the other hand, is assignable in its own right, but it is difficult to see how that may happen without the licensee's consent. Thus, the second issue related to the nature of the SolidWorks licence. Clearlab bore the burden of proving that its intangible right to use SolidWorks could be misappropriated. But no evidence had been adduced to show, for this purpose, if the SolidWorks licence was personal or proprietary. Third, there was a question of degree of whether the software licence had been dealt with in a manner that excluded the rightful licensee from its use. Conversion has been described as "an act of deliberate dealing with a chattel in a manner inconsistent with another's right whereby that other is deprived of the use and possession of it": *Kuwait Airways Corp v Iraqi Airways Co (Nos 4 and 5)* [2002] 2 AC 883 at 1084, [38], citing *Clerk & Lindsell on Torts* (Margaret R Brazier gen ed) (Sweet & Maxwell, 17th Ed, 1995) at p 636, para 13-12; Lord Nicholls of Birkenhead noted that the textbook description was "judicially approved" at 1084, [40]. The latter part of the sentence – "whereby that other is deprived of the use and possession of it" – was the subject of some contention on the facts of this case. On one hand, Ting has wrongfully retained an activated copy of the SolidWorks software with Seat ID 761941 on his personal laptop and thereby interfered with Clearlab's right to activate the SolidWorks software with the same Seat ID on a different computer. On the other hand, it appeared from the evidence that Clearlab could have, at any time, "repossessed" the SolidWorks software by instructing the software vendor to remotely deactivate the SolidWorks software on Ting's laptop. There was therefore some uncertainty as to whether the degree of control on Clearlab's part to recover use of the SolidWorks software together with Ting's mere omission to deactivate the installed SolidWorks software on his laptop amounted to conversion.

316 Accordingly, on the last two issues, there was insufficient evidence in support of the assertion that Clearlab's SolidWorks licence could be and had been converted.

317 In any event, I noted that there would have been no substantive relief even if Clearlab had proven a tort of conversion with respect to the SolidWorks software licence. The particular copy of the SolidWorks software with Seat ID 761941 that Ting had on his laptop was deactivated by the time this action commenced. As such, Clearlab was not seeking any "return" of that software licence. Further, Clearlab had not produced any evidence of loss suffered during the time the SolidWorks software remained wrongfully activated on Ting's laptop. At the very most, Clearlab would have only been entitled to nominal damages under this cause of action.

Breach of supply agreement

318 The final claim against Ma and Li was for the breach of the supply agreement in relation to Quad Spinner. It was common ground that there was an implied term in the supply agreement that the Quad Spinner would be of merchantable quality and fit for its purpose. Clearlab's claim was that the implied term has been breached when OSC supplied a Quad Spinner that was unable to achieve accurate spin speeds.

319 The chronology of relevant events was as follows. In December 2010, the Quad Spinner was delivered to Clearlab. In April 2011, defects surfaced and Ma attended to them. On 25 April 2011, Clearlab inspected the Quad Spinner and produced an inspection report which showed that "the Quad Spinner had passed the parameter inspection, ie, the lens produced is of the correct specifications". [\[note: 164\]](#) This meant that the Quad Spinner was working fine as at 25 April 2011. [\[note: 165\]](#) On 19 May 2011, however, defects surfaced again. These were documented in a logbook entry, which stated that Tubes 2 and 4 of the Quad Spinner "failed dry lens prism check". [\[note: 166\]](#) The effect of the defects was allegedly that there was a discrepancy between the spin speed that was keyed into the Quad Spinner and the actual spin speed of the Quad Spinner. Ma subsequently did not repair the

Quad Spinner again and Clearlab undertook the repairs itself, claiming that it spent \$16,480 in the process.

320 As such, the central question was whether the defects (which resulted in inaccurate spin speeds) were attributable to a flaw in the design or fabrication of the Quad Spinner, or whether they were attributable to the end-user. Clearlab argued that the defects lay with the software in the Quad Spinner, and therefore this was a design issue. Consistent with that position, Clearlab had replaced the digital system in the Quad Spinner with an analogue system so as to rectify the defects. Clearlab further pointed out that the defendants' expert witness had agreed that an analogue system was more accurate than the digital system. The following passage from the cross-examination was cited to me: [\[note: 167\]](#)

Q: One of the witnesses has claimed that an analogue control, in terms of the speed, is better than a digital. What is your comment?

A: I believe this is the case. Analogue - - because you can have a more or less very smooth control of acceleration, speed and so on and so forth. Digital would be more difficult, because again this is discretised, where you have only certain steps, it is not a smooth curve. This can be quite obvious if you look at the controlled curve of the two devices. One is a smooth curve, the other is a series of steps.

Q: In terms of accuracy?

A: In terms of accuracy, I would say analogue can control better.

Q: For what reason?

A: Because it is continuous. Otherwise if it is discretised, it is either this or that, so you cannot have something in between. The other one is actually a continuous signal.

321 On a closer reading, however, this did not support Clearlab's claim that the defects could be attributed to the software in the Quad Spinner. All that the cross-examination revealed was that an analogue system was capable of achieving more accuracy than a digital system, not that the digital system was bound to be inaccurate. To illustrate, an analogue system would make a smooth transition from, say, 1rpm to 2rpm, whereas a digital system would make a jump from 1rpm to 2rpm. This was not the problem that Clearlab alleged. The problem, according to Clearlab's engineering manager, Wong, was that the Quad Spinner spun at a different speed from what was keyed in by the user. For example, it would spin at 448rpm or 452rpm when the user had keyed in 450rpm. [\[note: 168\]](#)

322 Therefore, the only evidence that Clearlab had adduced which is relevant to this issue of breach of implied term was the single-page logbook entry dated 19 May 2011. While the logbook entry did show that Tubes 2 and 4 of the Quad Spinner were defective, it did not explain that the defects arose from the software in the Quad Spinner. On the contrary, under the header of "Troubleshoot", it stated that "Tube 2 & 4 did not grip belt tightly. Area of contact between tube 2 & 4 and belt are very small." This suggested that the problem of inaccurate spin speeds related to the grip between the tubes and the belt, rather than the software. Therein lay further uncertainty. It was not clear what caused the poor grip between the tubes and the belt. Ma and Li suggested that it was possible that this arose from normal wear and tear or normal operational issues after the few months that the Quad Spinner was in Clearlab's possession, as opposed to Ma's faulty design or fabrication. Regardless of the actual cause of the problem, Ma and Li submitted that Clearlab had not discharged the burden of proving that any defect with the Quad Spinner was attributable to them. I agreed. The claim for

breach of implied term was therefore dismissed.

Remedies

323 Having concluded that Clearlab succeeded in its claims against the first to fifth and ninth defendants (*ie*, Ting, David, Goh, Ng, Aquilus and Ho), it is necessary to consider the remedies.

Permanent injunction against use of spincasting technology

324 The widest relief pleaded by Clearlab was a restraint against the defendants “carrying on, in any way whatsoever, a business which is direct or indirect competition with the Plaintiff’s business”. [\[note: 169\]](#) This was narrowed down in the closing submissions to a restraint against the defendants “[m]anufacturing contact lens using the spin cast method”. Clearlab sought not only to restrain the defendants from using Clearlab’s spincasting technology, but also to restrain the defendants from using spincasting technology altogether. It was noted that the spincasting technology existed in many variants, hence it was not necessarily the case that the defendants, specifically the first to fifth and ninth defendants, would be using Clearlab’s confidential information (and be in continued breach of confidence) merely because they engaged in manufacturing spin-cast lens in the future. It was possible, for example, for these defendants to obtain a licence to utilise a third party’s spincasting technology, or develop a different way of spincasting lens based on the information revealed in spincasting patents.

325 Clearlab nevertheless submitted that it is a fair outcome that the defendants be permanently restrained by making spin-cast lens. The sole authority that Clearlab relied on was *Johnson & Bloy (Holdings) Limited and another v Wolstenholme Rink plc and another* [1989] 1 FSR 135 (“*Johnson*”). It was cited for its broad consideration of what was necessary for the proper protection of the plaintiffs in relation to the information that was vital to the effective continuation of the plaintiffs’ business. But the case did not in fact assist Clearlab. In *Johnson*, the second defendant left the plaintiffs’ employ to work for the first defendant, taking with him confidential materials, such as formulations for printing inks. A question was raised as to whether the plaintiffs could restrain (at an interlocutory stage) the use of a mere combination of the two ingredients for manufacturing gold offset ink dryer (which was required as an “intermediary” for preparing inks), as opposed to the precise formulation. The court held that they could. Its main concern was that the defendants would get around the more specific restraint by varying the percentages of the ingredients in the precise formulation; that would have set the protection to the plaintiffs’ trade secrets at naught. Importantly, the case did not go as far as to say that the plaintiffs were entitled to restrain the defendants wholly from manufacturing dryer. At the end of the judgment, the injunction was stated to be subject to the following proviso (at 143–144):

Provided that it shall not constitute a breach of either injunction for the first defendant to use and manufacture a dryer in accordance with a formula obtained from an independent third party subject to the further proviso (a) that the third party has not devised such formula by reason of any disclosure (direct or indirect) by the defendants or either of them since March 1st, 1987, of the information that the two said ingredients may be used in combination in the manufacture of a dryer for an offset metallic printing ink; (b) the first defendant has not obtained or used such formula by reason of such information; and (c) the first defendant first swears and delivers to the plaintiffs an affidavit verifying the foregoing.

Clearly, the defendants were free to continue a competing business in manufacturing dryer so long as it did not involve the use of the plaintiffs’ confidential information. An exception to the injunction was specifically carved out so that the defendants can use any dryer independently developed by third

parties. The same reasoning applied with equal force here. Clearlab was only entitled to protect its own confidential information; it would overreach if it sought to permanently restrain the first to fifth and ninth defendants from the entire area of spincasting, without differentiating the situations between when they were actually misusing Clearlab's confidential information and when they were not.

326 On the facts, *Johnson* may also be distinguished from the present case. In *Johnson*, it was arguable that the combination of the two ingredients (and not just the precise formulation) was confidential information and therefore deserving of protection. In the present case, while Clearlab's specific method of spincasting was confidential, there were other methods of spincasting that were not confidential. Clearlab itself acknowledged that there were "generic" spin-cast processes described in patents. It follows that what was protectable as confidential information were the refinements that Clearlab had made to its spin-cast process, rather than spincasting in general. A blanket injunction against the first to fifth and ninth defendants using any form of spincasting technology, even those that are in the public domain or may be licensed from third parties, did not appear to be warranted.

327 In this connection, the defendants argued that there was no proportionality between the perceived threat and the remedy sought by Clearlab. It seemed that a general spincasting injunction would put Clearlab in a better position than it would have been had there been no breach. In fact, it would have insulated Clearlab permanently from competition from the defendants in the area of spincasting. It seemed that such an injunction was not reasonably necessary for the protection of Clearlab's business interests.

328 As a matter of policy, however, Clearlab submitted that its confidential information could not be sufficiently protected without a wide injunction. This was an argument that ran on the facts of the case rather than strict doctrinal considerations. The defendants' conduct from surreptitiously taking Clearlab's documents to deleting Clearlab's documents in contempt of the court order showed that they could not be trusted with compliance of a court order to not use or disclose Clearlab's confidential information. Clearlab submitted that the defendants would continue to use Clearlab's confidential information but would now do it under the guise of purchasing technology from third parties. Throughout the trial, the defendants had demonstrated a propensity to deceive. Goh strenuously denied using SCS6 even though he plainly could not design inserts without it. David put up a table comparing Clearlab's and Aquilus' lens formulations but later admitted that certain chemicals that were unique to Clearlab's lens formulation (eg, BME and Pluronic) were in fact used in Aquilus. Ting, the mastermind of the crooked scheme to use Clearlab's confidential information, had the audacity to join the audit team to audit Aquilus for ISO and OHSAS certifications. These were just a few examples of the defendants' dishonesty. Given the defendants' antecedents, there was a compelling case that the defendants would not simply refrain from using Clearlab's confidential information. After all, Clearlab could not monitor such compliance without unreasonable costs. It was a real concern that the defendants would defy the court order in a way which would avoid detection by Clearlab. In order to do practical justice, Clearlab submitted that a more heavy-handed measure, ie, a wide injunction against the use of spincasting technology, was necessary.

329 On this matter, it was crucial that the court should achieve as fair a balance as possible in the circumstances, between the two competing concerns. It was understandable, from Clearlab's perspective, that anything short of a blanket ban against spincasting would not stop the defendants from using its confidential information. If a prior court order had not commanded their obedience, there was no reason to believe that the next court order will be regarded any differently by them, unless there was an effective way of enforcing it. From the defendants' perspective, a permanent injunction against the use of spincasting technology would be a severe consequence. There is no precedent of a court granting a permanent injunction against an activity which does not necessarily

involve the plaintiff's confidential information. Typically, the injunction that is granted restrains only the use and disclosure of confidential information; that is regarded as sufficient to prevent the wrongdoer from profiting from his own wrong. Thus, it would not have been controversial if the defendants were prohibited from making spin-cast lens with the use of Clearlab's confidential information, but a permanent prohibition against the use of spincast technology would be too wide.

330 With these considerations in mind, I found that a fair balance on the facts of this case would be an injunction for a limited period. This would address the policy, on the one hand, against prohibiting the defendants from pursuing legitimate economic activity and on the other hand, protecting the rights of Clearlab against which much egregious conduct had been carried out by the same defendants. Clearlab's concern was that an injunction against the use of confidential information would be difficult to enforce and, with the proven proclivities of the defendants to abuse its confidential information, there is a high probability that they would continue doing it so long as they felt that they would not be caught. Given that any technology has a limited life span, an injunction for a limited period would be sufficient to meet Clearlab's concerns. In my view a fair period would be five years from the date of the writ. Although this means that the injunction will continue for only another two years, I take into consideration that Aquilus had already been effectively prohibited from manufacturing contact lenses since the date of the writ. In any event, the prime consideration is the fact that in this five-year period, the technology would have moved on and any undue advantage acquired by Aquilus from the confidential information, assuming they still have it, would be lost or at the very least, heavily diluted. I therefore grant an injunction against the first to fifth and the ninth defendants (*ie*, the ex-employees, Aquilus and Ho) from carrying out manufacturing of contact lenses using the spin-cast method, or from participating in any such manufacturing.

Permanent injunction against continued breach of confidence

331 The next relief that Clearlab sought was a permanent injunction against the defendants from using, disclosing or otherwise benefiting from its confidential information. There was no dispute that Clearlab was entitled to this injunctive relief. It is just and appropriate that a defendant should be precluded from taking advantage of the confidential information if the confidential information comes to him in circumstances where he has notice or has agreed that the information is confidential. To preserve the confidentiality of the information and to prevent the defendants from further exploiting the confidential information, I will grant an injunction in terms that are couched by Clearlab, *ie*, it is a restraint against the first to fifth and the ninth defendants (*ie*, the ex-employees, Aquilus and Ho) from:

- (a) manufacturing, selling and distributing (whether or not for consideration) contact lenses and carrying on a business in any manner whatsoever which have howsoever involved or would involve the use of, is based on or would be based on (whether in whole or in part) and/or contains or would contain Clearlab's confidential information;
- (b) using Clearlab's confidential information or any part thereof; and
- (c) disclosing Clearlab's confidential information to any third party.

As discussed at [142], the scope of Clearlab's protectable confidential information was confined to the list of items in Annex A of its closing submissions, except for the information relating to the design of the Quad Spinner, the modifications to the Dual Spinner, product artwork, and four documents (*ie*, (a) Atago Hand Held Refractometer.pdf, (b) chemist[1].doc, (c) 3287.001.pdf, and (d) http.doc). These categories of information were not protectable because, as concluded above, Clearlab either lacked standing or the information had already entered the public domain.

Delivery up

Confidential information

332 In the same vein, Clearlab was entitled to have all its information, which I had held to be confidential, returned. I therefore order a delivery up of all documents and electronic devices containing Clearlab's confidential information that is within the first to fifth and ninth defendants' custody, power or possession. This is to be complied with within seven days of my order. Concurrent with such delivery up, I will also allow Clearlab's prayer for the first to fifth and ninth defendants to individually swear and file affidavits confirming that they have complied with delivery up order.

PET casts

333 The PET casts which were converted by the defendants shall also be returned to Clearlab. Since the execution of the search order, these PET casts, have been sealed in a box and left in the custody of Aquilus. I hence order that Aquilus to deliver up to Clearlab the PET casts within seven days of my order.

Wrotham Park damages

334 Clearlab made a rather peculiar and confusing submission about *Wrotham Park* damages. On one hand, it submitted that the first to sixth and ninth defendants could not be trusted not to use Clearlab's confidential documents in the future, therefore *Wrotham Park* damages were a "just response". On the other hand, Clearlab specifically asked to be compensated for the period between the breach of confidence and the interim injunction. Presumably, Clearlab sought *Wrotham Park* damages for two separate timeframes: from breach till the interim injunction, and from the date of the judgment onwards. Clearlab further submitted that, in the event that the defendants do not satisfy the judgment for *Wrotham Park* damages, they should be permanently restrained from manufacturing contact lens using the spin-cast method: this injunction has been discussed above and an injunction for a limited period of five years has been ordered. Notwithstanding my holding, it is an odd argument because *Wrotham Park* damages are usually given in lieu of injunction and not the other way round.

335 I should first affirm the authority of the court to award *Wrotham Park* damages for breach of confidence. It is consistent with the view expressed by Lord Denning MR in *Seager v Copydex Ltd (No 2)* [1969] 1 WLR 809 ("*Seager*") that damages for breach of confidence could reflect the market value attached to the confidential information, or, as Clearlab put it, the price which the owner of the confidential information could reasonably have demanded for agreeing to relax the restriction in question. A necessary implication of an award of such damages is that the defendants are regarded as having made an outright purchase of the confidential information. Once the damages are assessed and paid, the confidential information would belong to the defendants as if they had bought it in an agreement of sale: see *Seager* at 813.

336 That said, this is not a proper case for awarding *Wrotham Park* damages. The main reason is that Clearlab is not desirous of relinquishing its rights over its confidential information. I understand Clearlab to be seeking both *Wrotham Park* damages and an injunction against continued use of its confidential information. But it is not possible to have both reliefs. *Wrotham Park* damages, as mentioned, are awarded in lieu of injunction.

337 In the case of *Wrotham Park Estate Co Ltd v Parkside Homes Ltd and others* [1974] 1 WLR 798 ("*Wrotham Park*"), from which the term *Wrotham Park* damages was derived, Brightman J awarded damages as "a just substitute for a mandatory injunction": at 815D. Instead of ordering a mandatory

injunction for the demolition of buildings developed in breach of a restrictive covenant, because that would have been an “unpardonable waste of much needed houses”, Brightman J had assessed damages as a sum which the plaintiffs might reasonably have demanded from the defendant as *quid pro quo* for relaxing the covenant. It assumes a hypothetical negotiation between parties to buy out or to release the relevant obligation.

338 It is observed that in *Wrotham Park*, there had not been an interim injunction or a permanent injunction. The defendant managed to fully complete the development, sell all the completed housing units and then keep the profits because the housing units were not to be torn down. On the basis of the sale, the plaintiff was given a cut of 5%.

339 There is no parallel in the present case. Here, the first to fifth and ninth defendants are already restrained by an injunction from making further use or profiting from Clearlab’s confidential information. Further, in view of the proven danger that this order may be breached, I have issued another injunction for a period of five years prohibiting the first to fifth and ninth defendants from manufacturing contact lenses using the spin-cast method. If *Wrotham Park* damages are to compensate for the future use of Clearlab’s confidential information, this would be double recovery. It is not right that the defendants have to buy the release of their obligations (by paying *Wrotham Park* damages) and then be enjoined from using any of Clearlab’s confidential information.

340 Thus, the more appropriate remedy in the circumstances of the case is the two injunctions and the delivery up order. Along with the costs order, they should effectively restore Clearlab to the same position that it would have been in had the defendants not breached their obligation of confidence. I will therefore decline to make any order for *Wrotham Park* damages.

341 As for past misuse, Clearlab submitted that there was a period between the breach and interim injunction that needs to be compensated for. Prior to the execution of the interim injunction on 17 October 2011, each of the first to fifth and ninth defendants were clearly in breach of confidence and/or fiduciary duty. The exact dates of when the breach began are unknown, but, for Ting, it could be as early as March 2011 when he was attending meetings at Aquilus and, for David, it was at least since 22 May 2011 when he started sending Ting emails containing Clearlab’s confidential information.

342 However, the argument that *Wrotham Park* damages are available for that specific timeframe is tenuous. It seems to have no regard for commercial reality. The fact is that no agreement could hypothetically have been struck between the parties for a limited use of confidential information in Aquilus that can never come to fruition (*viz*, production and sale of competing products by Aquilus). As Sales J said in *Duncan Edward Vercoe and others v Rutland Fund Management Limited and others* [2010] EWHC 424 (Ch) at [292]:

On my reading of the authorities, where damages are to be awarded on a *Wrotham Park* type basis, what is required from the court is an assessment of a fair price for release or relaxation of the relevant negative covenant having regard to (i) *the likely parameters given by ordinary commercial considerations bearing on each of the parties (it would not usually be fair for the court to make an award of damages on this basis by reference to a hypothetical agreement outside the bounds of realistic commercial acceptability assessed on an objective basis with reference to the position in which each party is placed, and see Pell Frischmann Engineering Ltd at [53])*; (ii) any additional factors particularly affecting the just balance to be struck between the competing interests of the parties (see Brightman J’s reference to the conduct of the beneficiary of the restrictive covenant in *Wrotham Park* at 815H-816B as a factor tending to moderate the award of damages in its favour and the reference of the Privy Council in *Pell Frischmann Engineering Ltd* at [54] to the relevance of extraordinary and unexplained delay by

the claimant); and (iii) the court's overriding obligation to ensure that an award of damages for breach of contract – which falls to be assessed in light of events which have now moved beyond the time the breach of contract occurred and which may have worked themselves out in a way which affects the balance of justice between the parties — does not provide relief out of proportion to the real extent of the claimant's interest in proper performance judged on an objective basis by reference to the situation which presents itself to the court (see the discussion in *Experience Hendrix* at [27]-[30] of the special nature of the interest of the claimant which justified the award of damages in *Blake* equivalent to the profits which Blake had made in publishing his book about his treachery; the general discussion by Lord Nicholls in *Blake* at 282A-285H; and also compare *Ruxley Electronics and Construction Ltd v Forsyth* [1996] AC 344). [emphasis added]

343 What Clearlab is essentially seeking are *Wrotham Park* damages represented by a licence fee for the use of the confidential information for such time and extent before the products are fully developed for the market. It is a prime example of a hypothetical agreement that is "outside the bounds of realistic commercial acceptability". The licensor, Clearlab, has everything to gain, in terms of monetary compensation, for loaning out the confidential information, whereas the licensee, the defendants, are ultimately prevented from benefiting from the use of the confidential information because the licence to use is retracted just before they are ready to sell the products made using the confidential information. The value of a licence for such temporary and restricted use is zero.

344 For the reasons above, Clearlab is not entitled to *Wrotham Park* damages.

Damages / account of profits

345 The claim for damages or account of profits (at Clearlab's election) can be summarily dismissed for the reason that no proof of loss or profits was adduced before the court. This is not surprising. The interim injunction was obtained in time before the defendants sold any products. There is therefore neither loss that is shown to be attributable to defendants' breach, nor any profit made by the defendants.

Conclusion

346 In the premises, Clearlab has succeeded against: (a) the ex-employees, Ho and Aquilus in its claim for breach of confidence and tort of conspiracy by unlawful means, (b) the ex-employees in its claim for breach of employment contract, (c) Ting in its claim for breach of fiduciary duty, and (d) Ting, Goh and Aquilus in its claim for tort of conversion.

347 I will hear counsel on the issue of costs.

[\[note: 1\]](#) 1BA, Dr Park's AEIC, pp 387–389

[\[note: 2\]](#) 1BA, Dr Park's AEIC, p 384

[\[note: 3\]](#) Notes of evidence ("NE"), 17 March 2014, p 43 (lines 3–18)

[\[note: 4\]](#) 6BA, Mrs Park's AEIC, p 112 (Ting's email to Mrs Park of 24 March 2011)

[\[note: 5\]](#) NE, 24 February 2014, p 42 (lines 6–7)

[\[note: 6\]](#) Ting's AEIC, p 89, para 86.4

[\[note: 7\]](#) Ting's AEIC, p 89, para 86.4

[\[note: 8\]](#) NE, 28 February 2014, pp 46 (line 25) – 47 (line 9)

[\[note: 9\]](#) Sara's AEIC, p 4, para 9

[\[note: 10\]](#) Sara's AEIC, p 47

[\[note: 11\]](#) 6BA, Cerasi's AEIC, p 42, item 10.14

[\[note: 12\]](#) NE, 5 March 2014, p 126 (lines 6–16)

[\[note: 13\]](#) Goh's AEIC, p18, para 37, p 21, para 45

[\[note: 14\]](#) Goh's AEIC, p 16, para 33, p 18, para 39

[\[note: 15\]](#) 29PE; 30PE

[\[note: 16\]](#) NE, 19 February 2014, pp 46 (line 14) – 47 (line 18)

[\[note: 17\]](#) NE, 19 February 2014, pp 62–65

[\[note: 18\]](#) NE, 19 February 2014, p 73 (lines 8–18)

[\[note: 19\]](#) NE, 20 February 2014, pp 50 (line 15) – 51 (line 11)

[\[note: 20\]](#) 2BCA, Tab 6, p 21, para 69

[\[note: 21\]](#) NE, 3 April 2014, p 85

[\[note: 22\]](#) 2BCA, Tab 6, p 6, para 17

[\[note: 23\]](#) 1BA, Dr Park's AEIC, pp 70–71

[\[note: 24\]](#) Ma's AEIC, pp 207–210

[\[note: 25\]](#) BP, Tab 8, F&BP dated 28 January 2013, p 425, para 2(i)

[\[note: 26\]](#) Ma's AEIC, p 161; see also pp 93–154 for quotations and purchase orders in relation to Ma's work on the Dual Spinners.

[\[note: 27\]](#) Ma's AEIC, p 15, paras 26– 27

[\[note: 28\]](#) NE, 7 August 2013, pp 14–15

[\[note: 29\]](#) NE, 13 March 2013, pp 81 (line 23) – 82 (line 1)

[\[note: 30\]](#) Ting’s AEIC, pp 519, 534

[\[note: 31\]](#) 3DB, p 1686 (col 2, line 26)

[\[note: 32\]](#) 3DB, p 1808 (col 2, line 38)

[\[note: 33\]](#) 3DB, p 1479, para 23

[\[note: 34\]](#) 3DB, p 1512

[\[note: 35\]](#) NE, 1 August 2013, pp 68 (line 10) – 70 (line 1)

[\[note: 36\]](#) 2BA, Dr Park’s AEIC, p 789, item 10.32

[\[note: 37\]](#) 1-BA, Dr Park’s AEIC, p 549

[\[note: 38\]](#) NE, 5 March 2014, pp 144 (line 20) – 146 (line 12)

[\[note: 39\]](#) NE, 6 March 2014, pp 53–60

[\[note: 40\]](#) 3BA, Dr Park’s AEIC, p 1563

[\[note: 41\]](#) 23PE; 24PE; 31PE; 34PE

[\[note: 42\]](#) Goh’s AEIC, p 18, paras 38-39

[\[note: 43\]](#) NE, 4 March 2014, p 7

[\[note: 44\]](#) Goh’s AEIC, pp 24–25, para 54

[\[note: 45\]](#) NE, 17 February 2014, p 186

[\[note: 46\]](#) NE, 18 February 2014, p 13 (lines 5–6)

[\[note: 47\]](#) Goh’s AEIC, p 18, para 37, p 21, para 45

[\[note: 48\]](#) NE, 18 February 2014, pp 45–46

[\[note: 49\]](#) NE, 19 February 2014, p 7 (lines 3–4)

[\[note: 50\]](#) 29PE; 30PE

[\[note: 51\]](#) 6BA, Cerasi’s AEIC, p 149

[\[note: 52\]](#) NE, 19 February 2014, p 82 (lines 1–7)

[\[note: 53\]](#) 6BA, Cerasi’s AEIC, p 148

[\[note: 54\]](#) NE, 19 February 2014, p 92 (lines 9–19)

[\[note: 55\]](#) 1BA, Dr Park’s AEIC, p 317, p 46, para 159

[\[note: 56\]](#) David’s AEIC, pp 12–13, paras 27, 29–30

[\[note: 57\]](#) NE, 7 March 2014, p 50 (lines 2–25)

[\[note: 58\]](#) NE, 6 March 2014, p 156 (line 23) – 157 (line 23)

[\[note: 59\]](#) 36PE, p 1, photograph D, bottle of Pluronic F-127

[\[note: 60\]](#) NE, 6 March 2014, p 162

[\[note: 61\]](#) 36PE, p 2, photograph C, bottle of benzoin methyl ether (BME)

[\[note: 62\]](#) David’s AEIC, pp 22 –25, paras 51–52

[\[note: 63\]](#) NE, 7 March 2014, pp 7 (line 19) – 9 (line 2)

[\[note: 64\]](#) NE, 6 March 2014, pp 171 (line 9) – 172 (line 20)

[\[note: 65\]](#) NE, 6 March 2014, p 160 (lines 5–6)

[\[note: 66\]](#) NE, 6 March 2014, p 161 (lines 11–25)

[\[note: 67\]](#) NE, 6 March 2014, p 163 (lines 7–18)

[\[note: 68\]](#) NE, 27 February 2014, pp 63 (line 24) – 64 (line 3); NE, 28 February 2014, p 68 (lines 18–25)

[\[note: 69\]](#) 6BA, Cerasi’s AEIC, pp 41–44

[\[note: 70\]](#) 1BA, Dr Park’s AEIC, p 553

[\[note: 71\]](#) NE, 6 March 2014, pp 43 (line 1324); NE, 28 February 2014, pp 96 (line 18) – 98 (line 16)

[\[note: 72\]](#) NE, 6 March 2014, pp 43 (line 18) – 45 (line 21)

[\[note: 73\]](#) Ng’s AEIC, p 6, para 15

[\[note: 74\]](#) NE, 21 February 2014, pp 21–22

[\[note: 75\]](#) NE, 21 February 2014, pp 11–16

[\[note: 76\]](#) NE, 21 February 2014, pp 22 (lines 12–20)

[\[note: 77\]](#) NE, 21 February 2014, pp 22 (line 24) – 23 (line 19)

[\[note: 78\]](#) First to sixth and ninth defendants’ reply submissions, p 4, para 9

[\[note: 79\]](#) 4BA, Dr Park’s AEIC, p 2467

[\[note: 80\]](#) 5BA, Dr Yip’s AEIC, p 18

[\[note: 81\]](#) 5BA, Dr Yip’s AEIC, Tab YYS-7

[\[note: 82\]](#) NE, 20 August 2013, pp 150, 153

[\[note: 83\]](#) NE, 21 February 2014, p 138

[\[note: 84\]](#) NE, 21 February 2014, p 141; 10-BA, Sara’s AEIC, p 7, para 17

[\[note: 85\]](#) 10BA, Sara’s AEIC, p 4, para 9

[\[note: 86\]](#) NE, 5 March 2014, pp 87–88

[\[note: 87\]](#) 5BA, Dr Yip’s AEIC, p 19

[\[note: 88\]](#) 10BA, Ting’s AEIC, p 90, para 88.1

[\[note: 89\]](#) NE, 6 March 2014, p 94

[\[note: 90\]](#) David’s AEIC, p 37, para 79, pp 39–40, para 86, pp 41–42, para 92; Ng’s AEIC, pp 8–9, paras 20–21

[\[note: 91\]](#) NE, 28 February 2014, pp 99 (line 2) – 100 (line 11)

[\[note: 92\]](#) NE, 5 March 2014, p 77 (lines 6–14)

[\[note: 93\]](#) NE, 10 March 2014, pp 61–63

[\[note: 94\]](#) Toh’s AEIC, p 20, para 45(a)

[\[note: 95\]](#) NE, 25 March 2013, pp 134–135

[\[note: 96\]](#) Ma’s AEIC, p 10, para 13, p 12, para 19

[\[note: 97\]](#) Ma’s AEIC, p 12, para 18

[\[note: 98\]](#) NE, 6 August 2013, p 17 (lines 11–14)

[\[note: 99\]](#) 3D7B(5), Tab 128

[\[note: 100\]](#) NE, 17 March 2014, pp 70 (line 22) – 71 (line 7)

[\[note: 101\]](#) NE, 17 March 2014, pp 89 (line 19) – 90 (line 10)

[\[note: 102\]](#) 1BA, Dr Park’s AEIC, p 528

[\[note: 103\]](#) 1BA, Dr Park’s AEIC, p 526

[\[note: 104\]](#) 1BA, Dr Park’s AEIC, pp 525, 527

[\[note: 105\]](#) 1BA, Dr Park’s AEIC, pp 522, 524

[\[note: 106\]](#) 1BA, Dr Park’s AEIC, pp 522, 524

[\[note: 107\]](#) 1BA, Dr Park’s AEIC, p 523

[\[note: 108\]](#) 1BA, Dr Park’s AEIC, pp 520, 522

[\[note: 109\]](#) 1BA, Dr Park’s AEIC, pp 519, 530

[\[note: 110\]](#) 1BA, Dr Park’s AEIC, pp 518, 530

[\[note: 111\]](#) 1BA, Dr Park’s AEIC, p 516

[\[note: 112\]](#) 1BA, Dr Park’s AEIC, pp 515, 529

[\[note: 113\]](#) 1BA, Dr Park’s AEIC, pp 531

[\[note: 114\]](#) NE, 24 February 2014, pp 75 (line 3) – 91 (line 22), p 93 (lines 5–10)

[\[note: 115\]](#) 1BA, Dr Park’s AEIC, p 525, item 3.3

[\[note: 116\]](#) 1BA, Dr Park’s AEIC, p 524, item 3.2

[\[note: 117\]](#) 1BA, Dr Park’s AEIC, p 524, item 3.1

[\[note: 118\]](#) NE, 24 February 2014, p 72 (lines 3–12)

[\[note: 119\]](#) 2PIA, Tab 11, “JGP-B”, pp 24–25

[\[note: 120\]](#) NE, 5 March 2014, pp 2 (line 22) – 3 (line 6); 17 February 2014 p 28 (lines 15–22), p 34

(lines 24–25); 20 February 2014, p 168 (lines 14–20)

[\[note: 121\]](#) 1DB, pp 139–141

[\[note: 122\]](#) 6BA, Cerasi’s AEIC, pp 31–34, 38–40

[\[note: 123\]](#) 6BA, Lukman Haryanto’s AEIC, p 107

[\[note: 124\]](#) NE, 20 February 2014, p 180 (lines 1–18)

[\[note: 125\]](#) 1BA, Dr Park’s AEIC, pp 93–100

[\[note: 126\]](#) 5BA, Dr Yip’s AEIC, pp 12–13; NE, 6 March 2014, pp 139 (line 18) –140 (line 1)

[\[note: 127\]](#) NE, 21 February 2014, p 22 (lines 24–25), p 23 (line 1)

[\[note: 128\]](#) NE, 19 March 2014, pp 173 (line 9) – 174 (line 24)

[\[note: 129\]](#) 1BCA, Tab 2, para 20 (Ting); 1-BCA, Tab 4, para 16 (David)

[\[note: 130\]](#) NE, 6 March 2014, pp 85–88

[\[note: 131\]](#) NE, 21 February 2014, pp 43 (line 8) – 44 (line 1), p 52 (lines 13–25)

[\[note: 132\]](#) 3BA, p 1588 (17 March 2011 entry)

[\[note: 133\]](#) 3BA, pp 1583, 1588

[\[note: 134\]](#) 17DE, pp 4–6

[\[note: 135\]](#) NE, 3 April 2014, pp 56–57

[\[note: 136\]](#) Ting’s AEIC, p 66, para 75.26

[\[note: 137\]](#) NE, 28 February 2014, p 188 (lines 16–25)

[\[note: 138\]](#) NE, 28 February 2014, p 181 (line 7)

[\[note: 139\]](#) 3BA, p 1584

[\[note: 140\]](#) NE, 17 March 2014, pp 139 (line 5) – 140 (line 19)

[\[note: 141\]](#) Ma’s AEIC, p 164

[\[note: 142\]](#) 3BA, Dr Park’s AEIC, p 1582

[\[note: 143\]](#) Li's AEIC, p 6, para 10(e)

[\[note: 144\]](#) NE, 17 March 2014, pp 134 (line 25) – 135 (line 3)

[\[note: 145\]](#) 3BA, Dr Park's AEIC, p 1583

[\[note: 146\]](#) Li's AEIC, pp 14-15

[\[note: 147\]](#) NE, 5 March 2014, pp 9 (line 21) – 10 (line 8); NE, 17 February 2014, p 47 (lines 18–20); NE, 20 February 2014, pp 150 (line 25) – 151 (line 14)

[\[note: 148\]](#) 1DB, pp 139–141

[\[note: 149\]](#) 4BA, Dr Park's AEIC, Tab 66 (email dated 30 December 2011)

[\[note: 150\]](#) NE, 24 February 2014, p 123 (lines 20–21)

[\[note: 151\]](#) NE, 25 February 2014, p 22 (lines 19–20)

[\[note: 152\]](#) NE, 5 March 2014, p 65 (lines 18–24)

[\[note: 153\]](#) NE, 20 February 2014, pp 13 (line 2) – 14 (line 19)

[\[note: 154\]](#) Ng's AEIC, p 7, para 18, p 8, para 18, p 12, para 27

[\[note: 155\]](#) 24PE

[\[note: 156\]](#) 6BA, Mrs Park's AEIC, p 3, para 6

[\[note: 157\]](#) SOC, p 43, para 58, p 92, para 178

[\[note: 158\]](#) NE, 17 March 2014, pp 93 (lines 6–9) – 94 (lines 19–21)

[\[note: 159\]](#) NE, 17 March 2014, pp 92 (line 25) – 93 (line 9)

[\[note: 160\]](#) NE, 17 March 2014, p 179 (lines 12–14)

[\[note: 161\]](#) NE, 28 February 2014, p 27 (lines 11–21), p 28 (lines 2–4, 23–25)

[\[note: 162\]](#) 5PE, p 3

[\[note: 163\]](#) 5DB, p 3307

[\[note: 164\]](#) 7BA, Wong's AEIC, p 14, para 36

[\[note: 165\]](#) NE, 7 August 2013, p 24

[\[note: 166\]](#) 7BA, Wong's AEIC, p 116

[\[note: 167\]](#) NE, 19 March 2014, p 13 (lines 5–23)

[\[note: 168\]](#) 7BA, Wong's AEIC, p 14, para 38

[\[note: 169\]](#) SOC, p 94, para 185(1)(a)

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