

HT SRL v Wee Shuo Woon
[2019] SGHC 96

Case Number : Suit No 489 of 2015
Decision Date : 18 April 2019
Tribunal/Court : High Court
Coram : Hoo Sheau Peng J
Counsel Name(s) : Tan Gim Hai Adrian, Ong Pei Ching and Veluri Hari (TSMP Law Corporation) for the plaintiff; Choo Zheng Xi, Priscilla Chia Wen Qi and Wong Thai Yong (Peter Low & Choo LLC) for the defendant.
Parties : HT SRL — Wee Shuo Woon

Contract – Breach

Contract – Illegality and public policy – Restraint of trade

Contract – Remedies – Damages

Employment law – Employees’ duties – Duty of good faith and fidelity

18 April 2019

Judgment reserved.

Hoo Sheau Peng J:

Introduction

1 In this suit, the plaintiff, HT SRL (“HT”), claims against the defendant, Wee Shuo Woon (“Woon”), a former employee, for breaching obligations in his employment agreement, as well as his duty of good faith and fidelity owed while an employee. Woon denies the allegations, and counterclaims for unpaid salary and expenses. Having heard the trial of the action, this is my decision.

Background

The parties and their software products

2 HT was incorporated in Italy in 2003. Since 2004, it has been providing “offensive” security technology to law enforcement and intelligence agencies worldwide. [\[note: 1\]](#) David Vincenzetti (“Vincenzetti”) is a co-founder of HT, and is its Chief Executive Officer. [\[note: 2\]](#)

3 “Offensive” technology (as opposed to “defensive” technology) refers to software designed to enable its user to access, use and/or alter data on a target device. In essence, it is malware. An application of such technology is in law enforcement, where such software can be used to surreptitiously monitor terrorist and/or criminal communications by hacking into the mobile phones or laptops of persons of interest. [\[note: 3\]](#) On the other hand, “defensive” technology is software designed to detect and neutralise malware installed on a user’s device. [\[note: 4\]](#)

4 HT’s principal software is the Remote Control System (“RCS”), which allows users to bypass

encryption, collect data from various components of the target device (eg, the camera, microphone, Global Positioning System) and transfer it to an RCS server. Evidently, it is important that all of this can be done surreptitiously. [\[note: 5\]](#) Should the target be alerted to the fact that he is being monitored, he might cease using that device, or worse, might modify his behaviour on that device so as to feed false intelligence.

5 According to Vincenzetti, on occasions, the RCS would be detected by an anti-malware software (ie, a "defensive" software). In response, HT's engineers would quickly modify the RCS code so as to update the software and make it invisible again. Such *ad hoc* detections would usually be resolved within three days. [\[note: 6\]](#) At the material time, the version of RCS available was the ninth version which was named "Galileo".

6 Woon, also known as "Serge", was HT's former employee. While employed by HT, he performed the role of "Security Specialist". [\[note: 7\]](#) Subsequently, Woon left HT and joined ReaQta Ltd ("ReaQta") as its Business Development Director and "Co-Founder". [\[note: 8\]](#) ReaQta is a company incorporated in Malta in May 2014, and was co-founded by another former software engineer of HT, Alberto Pelliccione ("Pelliccione"). [\[note: 9\]](#)

7 ReaQta develops and sells defensive software. Its flagship product is ReaQta-Core, a defensive software which users can install on their devices to detect, track and protect themselves against a wide range of threats, including malware. [\[note: 10\]](#)

Events prior to Woon's employment with HT

8 From 2008 to 2011, Woon was employed by PCS Security Pte Ltd. His work involved advising clients on cybersecurity solutions on the market which were appropriate for their needs. [\[note: 11\]](#) During this time, Woon got to know several of HT's personnel, including Vincenzetti and Marco Bettini ("Bettini"), the sales manager.

9 Sometime in December 2011, Woon joined British Telecom Global Services ("BT"), taking on a pre-sales role which involved assisting with the technical integration of BT's defensive security products with its clients' existing systems. [\[note: 12\]](#) While employed with BT, Woon also engaged in some "freelance work" for a company called Xsecpro Pte Ltd ("Xsecpro"). Xsecpro was owned by Woon's friend, and Woon provided advice in respect of the technical integration of certain defensive security products distributed by Xsecpro. [\[note: 13\]](#)

10 By 2012, HT was keen to expand its business in the Asia-Pacific region, and was looking to employ someone in Singapore to do so. On 12 March 2012, Bettini asked Woon if he would be interested in joining HT. On 23 May 2012, Woon met Vincenzetti and HT's Chief Financial Officer, Giancarlo Russo ("Russo"), in Singapore to discuss the prospect of joining HT. According to Woon, at this meeting, he informed Vincenzetti and Russo that he was doing "freelance work for defensive security solutions" which were "not ... in conflict with HT's solutions". Both men had said that they had no objections. [\[note: 14\]](#) This version of events was denied by HT.

Events during Woon's employment with HT

11 Woon agreed to join HT. The terms of Woon's employment were finalised in a Letter of Appointment dated 14 August 2012 ("Employment Agreement"), and Woon commenced work on

1 October 2012. [\[note: 15\]](#)

12 By Annex A of the Employment Agreement, as HT's Security Specialist, Woon's duties included, *inter alia*, gathering information on the markets and opportunities for sale and/or distribution of HT's products, conducting research on the demand or potential demand for HT's products and cultivating business contacts for HT. [\[note: 16\]](#) He was to perform such duties in the "Territory", which was defined to mean the Asia-Pacific region. I shall return to the other terms of the Employment Agreement in due course.

13 I should add that the other HT employee based in the Singapore office at the time was Daniel Maglietta ("Maglietta"), a sales manager, who was primarily in charge of the sales for the Singapore office.

Involvement with ReaQta

14 According to Woon, sometime in 2014, Pelliccione informed Woon that he would soon be leaving HT to develop a defensive security solution. [\[note: 17\]](#) After Pelliccione left HT in March 2014, he would occasionally approach Woon to discuss ideas as to "how he could turn his idea into a workable and marketable product". Sometime in the last quarter of 2014, Pelliccione asked Woon if he would be interested in leaving HT for ReaQta. While the latter declined the offer, he "did not want to close the door on this opportunity" and asked Pelliccione to allow him to continue to "observe and experience the market response to ReaQta-Core before deciding to take the plunge". [\[note: 18\]](#) An email account with a ReaQta.com domain was created for Woon in November 2014. Woon said that this was so that he could be kept in the loop regarding the market response to ReaQta-Core in order to see if he was interested in joining ReaQta in the future. [\[note: 19\]](#) Unsurprisingly, in these proceedings, HT took a different view of Woon's involvement with ReaQta during this period.

The Kroll Demonstration

15 Sometime in August 2014, HT hired Kroll Associates, Inc ("Kroll"), an investigative agency, to investigate the actions of a HT contractor, one Luis Alejandro Velasco ("Velasco"), whom HT suspected of working for its competitors. The brief was for Kroll to approach Velasco, posing as a potential client of HT to see if Velasco would attempt to market the products of HT's competitors to Kroll. [\[note: 20\]](#)

16 On 6 February 2015, Velasco hosted a demonstration of ReaQta's software for the Kroll representatives. According to Robert Addona ("Addona"), the managing director of Kroll, Woon participated in the demonstration via a conference call. Woon was introduced by Velasco as ReaQta's "Asia Pacific Representative". [\[note: 21\]](#) The details of what transpired during the product demonstration were recorded in Kroll's investigation report dated 24 February 2015 ("the Kroll Report"). [\[note: 22\]](#)

The termination of Woon's employment

17 On 20 January 2015, Woon tendered his resignation to HT. [\[note: 23\]](#) By the terms of the Employment Agreement, he was required to give two months' notice in writing, and the last day of his employment was to be 20 March 2015. [\[note: 24\]](#) However, Russo and Woon agreed to an "early termination" such that the latter's last day would be 13 February 2015. This agreement was recorded

in an email dated 12 February 2015. [\[note: 25\]](#) On 13 and 14 February 2015, Woon asked Russo for his Letter of Termination, but received no reply. [\[note: 26\]](#)

Events after Woon's employment with HT

18 From 11 to 30 March 2015, Woon requested an update on the Letter of Termination, as well as payment of the unpaid salary allegedly owing to him. He was informed that the payment was being withheld. [\[note: 27\]](#)

19 On 1 April 2015, Woon was extended a consulting agreement by ReaQta. However, Woon claimed that he only formally agreed to and signed the agreement on 6 October 2015. Meanwhile, Woon claimed he "informally started working for ReaQta in [his] private capacity" from 1 April to 6 October 2015. [\[note: 28\]](#)

20 On 13 April 2015, HT sent a letter of demand to Woon demanding: (i) a written undertaking that Woon would terminate his involvement with ReaQta; (ii) a written undertaking that Woon would comply with his duties and obligations under the Employment Agreement; and (iii) a proposal as to the quantum of damages and costs payable to HT for Woon's breaches of the Employment Agreement and duties owed to HT. [\[note: 29\]](#) On 27 April 2015, Woon responded, refusing to accede to HT's demands. [\[note: 30\]](#) On 20 May 2015, the present suit was commenced.

The pleadings

Statement of claim

21 HT's claim is in respect of two broad categories of breaches. First, HT alleges that Woon breached cll 10(a) and 10(b) of the Employment Agreement by engaging in the business of ReaQta without HT's prior written consent before the termination of his employment with HT on 20 March 2015. [\[note: 31\]](#) By these acts, he had also breached the duty of good faith and fidelity owed as an employee of HT. [\[note: 32\]](#) I refer to these breaches collectively as the "pre-termination breaches".

22 In essence, cl 10(a) obliges the employee to devote the whole of his time, knowledge, skills and attention to the performance of his duties, and cl 10(b) specifies that the employee may not engage or interest himself in any unrelated business (including business in competition with the employer) without the employer's prior written consent.

23 According to HT, Woon had engaged or interested himself in the business of ReaQta by (i) holding himself out as ReaQta's "Asia Pacific representative" and a "co-founder"; [\[note: 33\]](#) and (ii) marketing, selling and/or developing ReaQta-Core. In doing so, Woon had also implicitly represented that Galileo was not as effective as HT had made it out to be, thus discouraging potential clients from purchasing Galileo, causing harm to HT's sales and reputation. [\[note: 34\]](#)

24 Second, HT alleges that Woon breached cll 12(b) and 13(b) of the Employment Agreement. Clause 12(b) is a non-competition clause prohibiting the employee from being employed by or engaged in business with any entity falling within the definition of a "Competitor" in cl 12(a) for a period of 12 months after termination without the employer's prior consent. Clause 13(b) is a non-solicitation clause which prohibits the employee from soliciting business from past or existing customers or suppliers for a period of six months after termination.

25 HT alleges that Woon breached these provisions by being engaged with the business of ReaQta within 12 months and six months of the termination of his employment respectively (and, in respect of cl 12(b) only, for failing to obtain HT's prior consent in respect of his aforementioned involvement with ReaQta). [\[note: 35\]](#) I refer to these breaches as the "post-termination breaches".

26 In terms of the relief sought, HT claims for damages to be assessed, as well as an injunction to restrain Woon from continuing with the post-termination breaches. [\[note: 36\]](#)

Defence and counterclaim

27 In respect of the alleged pre-termination breaches of cll 10(a) or 10(b) of the Employment Agreement, Woon denies that he had been engaged in the business of ReaQta prior to the termination of his employment with HT. [\[note: 37\]](#) In the alternative, HT was aware of and had consented to his engaging in freelance consultancy work involving defensive security solutions generally, and had thereby waived the requirement for *written* consent under cl 10(b), [\[note: 38\]](#) or was estopped from insisting on its strict legal rights under that same clause. [\[note: 39\]](#)

28 Turning to the post-termination breaches, Woon admits that he did not obtain HT's consent for his involvement with ReaQta under cl 12(b) after his termination, [\[note: 40\]](#) but denies that ReaQta is a "Competitor" within the meaning of cl 12(a) of the Employment Agreement. [\[note: 41\]](#) Further, he avers that cll 12(b) and 13(b) are restraints of trade which are void for illegality because they do not protect any legitimate proprietary interest of HT, and are unreasonable as between the parties and with reference to the public. [\[note: 42\]](#)

29 Woon counterclaims for \$23,545.45 in unpaid salary (plus \$1,700 in employer's Central Provident Fund ("CPF") contributions) and \$416 in expenses incurred in the course of his employment with HT. [\[note: 43\]](#) He avers that the parties agreed by way of an email dated 12 February 2015 that although Woon's employment would be terminated with effect from 13 February 2015, HT would continue to pay his salary up to and until 20 March 2015. [\[note: 44\]](#)

Reply and defence to counterclaim

30 In reply, HT avers that it was not aware of Woon's "freelance consultancy work", and denies giving its consent to such work or having waived the requirement for written consent under cl 10(b). [\[note: 45\]](#) Clause 15 of the Employment Agreement is an entire agreement clause, and precludes Woon from relying on collateral oral agreements purporting to vary the written terms of the Employment Agreement.

31 In respect of the post-termination breaches, cll 12(b) and 13(b) are reasonable restraints and are therefore valid. [\[note: 46\]](#) ReaQta is a "Competitor" within the meaning of cl 12(a) of the Employment Agreement; it is marketed to HT's clients and potential clients as a security solution capable of countering the effects of HT's Galileo software. [\[note: 47\]](#)

32 HT denies the counterclaim in its entirety, and avers that it is not liable for the unpaid salary or CPF contributions because Woon breached the Employment Agreement. [\[note: 48\]](#)

Issues to be determined

33 The issues which fall for determination are as follows:

- (a) Whether Woon is liable in respect of the alleged pre-termination breaches.
- (b) Whether Woon is liable in respect of the alleged post-termination breaches.
- (c) If either (a) or (b) is answered in the affirmative, whether HT is entitled to substantial damages in respect of the breach(es).
- (d) Whether Woon is entitled to his counterclaim for unpaid salary up till 20 March 2015 and expenses incurred in the course of his work for HT.

34 I shall deal with each issue in turn.

Issue 1: Whether Woon is liable in respect of the alleged pre-termination breaches

35 The first set of alleged breaches concerns events which occurred *prior* to Woon's termination of employment. While the parties appear to differ on the precise date of the termination – HT says it was 20 March 2015 [\[note: 49\]](#) whereas Woon prefers 13 February 2015 [\[note: 50\]](#) – nothing turns on this. To reiterate, HT's case is that Woon had breached his obligations under cl 10 of the Employment Agreement and his implied duty of good faith and fidelity owed as an employee of HT because of his involvement with ReaQta.

Clause 10 of the Employment Agreement

36 As noted above, cl 10 prohibits the employee from engaging or interesting himself in any unrelated business (including business in competition with the employer) without the employer's prior written consent. Specifically, cll 10(a) and 10(b) of the Employment Agreement provide: [\[note: 51\]](#)

10. GENERAL TERMS AND CONDITIONS OF SERVICE

- (a) You shall devote the whole of your time, knowledge, skills and attention to the performance of your duties in the Company. ...
- (b) You may, only upon obtaining the Company's prior written consent, engage or interest yourself, whether for reward or gratuitously, in any work or business not related to your duties in the Company or undertake any external office/assignment. For the avoidance of doubt, you may not engage in or interest yourself in any business or engagement in competition with the Group (as defined in Clause 11), without the Company's prior written consent.

37 According to HT, the evidence clearly shows that Woon had been engaged in the business of ReaQta since its inception in February 2014. This was in breach of his obligations under cl 10 of the Employment Agreement. [\[note: 52\]](#) Woon denies that he had been engaged in the business of ReaQta in 2014. At best, he had merely been taking preparatory steps to doing so. [\[note: 53\]](#) In the alternative, Woon argues that HT was fully aware of his involvement and had thereby acquiesced or consented to his continued work with ReaQta. [\[note: 54\]](#)

38 In determining whether Woon had breached Cl 10 of the Employment Agreement, I consider the following sub-issues:

(a) whether Woon was engaged in the business of ReaQta by marketing, selling and/or developing ReaQta-Core between the commencement of his employment in 2012 until his termination in February or March 2015; and

(b) whether HT acquiesced to Woon's involvement in the business of ReaQta or otherwise waived its rights under cl 10(b) of the Employment Agreement.

Whether Woon had engaged in the business of ReaQta

39 Having considered the evidence, I am satisfied that Woon was engaged in the business of ReaQta while employed by HT. The clearest evidence of this is Woon's participation (via teleconference) in the Kroll Demonstration on 6 February 2015. The purpose of that demonstration was to showcase the capabilities of the ReaQta-Core software to Kroll, which was, for all intents and purposes known to Woon at the time, a prospective client of ReaQta. [\[note: 55\]](#) By Addona's account, Woon was "very engaged" in the presentation and was "knowledgeable about the technical aspects of the ReaQta product". [\[note: 56\]](#) At one point, Woon interrupted the presentation to correct Velasco when the latter had erroneously represented that ReaQta-Core exacted a higher burden on the user's computer processing power than was actually the case. [\[note: 57\]](#) Addona's account was not seriously challenged under cross-examination. [\[note: 58\]](#) During the presentation, Woon was introduced as ReaQta's "Asia Pacific representative". [\[note: 59\]](#) Woon did not see fit to correct Velasco on this score, and in fact admitted that he "did not feel uncomfortable" being introduced in that manner. [\[note: 60\]](#)

40 Woon attempted to downplay his involvement on the call, explaining that he had been asked to replace Pelliccione on short notice, and that he had gotten up on all of the technical specifications of ReaQta-Core on the eve of the presentation by reading a "white paper" Pelliccione had sent him. [\[note: 61\]](#) I have serious doubts as to whether this could be true. Even if it were, that does not detract from the fact that Woon had actively promoted ReaQta-Core during the presentation on 6 February 2015, and that Pelliccione had trusted him to do the same.

41 In fact, the other evidence strongly suggests that Woon had been involved in the business of ReaQta from a much earlier date. Woon himself admitted in his evidence in chief that after March 2014, when Pelliccione left HT and started ReaQta, Pelliccione "*often* approached [him]" to "discuss how he [Pelliccione] could turn his idea into a workable and *marketable* product" [emphasis added]. [\[note: 62\]](#) Woon clarified that while he was not personally involved in the development of ReaQta-Core *per se*, he had *advised* on the features that potential clients would be interested in, and how the ReaQta-Core product might be pitched or positioned in the market *vis-à-vis* its competitors. I set out some extracts: [\[note: 63\]](#)

Q: So you helped him bring his product to a marketable prototype stage. Yes?

A: I wouldn't say the credit is all mine because I just answered a few questions.

Q: I never said the credit is all yours ... Do you accept that you have some credit?

A: Maybe.

42 Further, Woon admitted that he had been using an official ReaQta email account since

November 2014. [\[note: 64\]](#) However, Woon did not disclose any of the emails sent from or received via his ReaQta email account (save for two November 2014 emails). [\[note: 65\]](#) His explanation was that the ReaQta email server hard disk had crashed, wiping out his emails sent or received before 14 April 2015. [\[note: 66\]](#)

43 I find this explanation quite unbelievable for several reasons. First, I agree with HT that it is rather difficult to believe that a company like ReaQta (which is, after all, in the business of cybersecurity) had no means of backing up emails. Second, Woon's evidence was that to his knowledge, the crash had only affected *some* but not all of ReaQta's employees. When he was asked if he attempted to recover his emails by asking colleagues who were unaffected by the crash to forward him the lost emails, Woon could only say that it did not occur to him at the time to do so as follows: [\[note: 67\]](#)

Q: So if you wanted to, you could recover those emails, because they were sent to other people as well, correct?

A: They were sent to other people as well, yes, correct.

...

Q: Could you take your computer, write an email to your colleagues saying, "As I've been required by the Supreme Court of Singapore to disclose these emails, and as my emails have been lost, please send me these emails again"?

A: Yes, I could possibly do that, but it doesn't occur to me at that point in time I should do it because it says that all the emails and communication in my possession.

44 Woon's explanation for his inability to produce any text messages from his mobile phone pertaining to communications with ReaQta is just as thin. According to him, he could not disclose the text messages sent and received by him from 10 March 2016 onwards as he had replaced the mainboard of his mobile phone due to "hardware issues". [\[note: 68\]](#) When asked why he also had not disclosed messages from his previous mobile phone, he claimed that his previous phone was stolen. [\[note: 69\]](#)

45 In my view, it is simply too convenient that Woon had lost *all* of his correspondence – both emails and text messages – pertaining to his communications relating to ReaQta during the period of his employment with HT. It would be inappropriate to allow Woon to excuse himself from his discovery obligations by simply pointing to a series of unfortunate events, especially when there were means, albeit inconvenient, for Woon to at least *attempt* to retrieve *some* emails.

46 In the circumstances, I agree with HT's contention that this is an appropriate case to draw an adverse inference against Woon to the effect that the emails and text messages, if disclosed, would have shown that he had been involved or engaged in marketing and/or developing ReaQta's products, including ReaQta-Core.

47 Leaving aside the contents of the emails, which were not placed in evidence before me, I considered the very fact that Woon had been given a ReaQta email account relevant. At trial, Woon could give no satisfactory reason for why he would need an official ReaQta email account, if not to facilitate his assisting in the marketing of ReaQta-Core to external parties. Woon claimed that the ReaQta email account was set up only so that he could be copied into correspondence relating to the

marketing of ReaQta-Core. This would allow him to gauge the market's response to the product and thereby assess if he wished to join ReaQta in the future. [\[note: 70\]](#) But if that were really the case, the emails could have been copied to Woon's personal email account. Pelliccione conceded as much under cross-examination. [\[note: 71\]](#) In fact, even on Woon's evidence, he was mostly copied into correspondence using the "blind carbon copy" function, in which case his email address would not matter at all since it would remain unseen. [\[note: 72\]](#)

48 For completeness, I note that much was made at trial about Woon's designation as a "co-founder" of ReaQta, and how that suggests that Woon had been involved in ReaQta from its inception. In my view, this point is neither here nor there. Ultimately, the title of "co-founder" was just a label and I accept Woon's contention that it was bestowed upon him to facilitate high-level meetings with potential investors. [\[note: 73\]](#) Indeed, the evidence of Woon's use of the designation was based on his profile on LinkedIn, and in the profile he had listed himself as "Co-Founder" from "March 2015", whereas ReaQta was incorporated in May 2014. [\[note: 74\]](#) Moreover, the fact that Woon did not receive 'A' shares (which were given to directors only) but only 'B' and 'C' shares (which were "more like employees' shares") [\[note: 75\]](#) also militated against a finding that Woon was a co-founder of the firm, and not an employee who had joined ReaQta sometime later.

49 Nevertheless, based on all of the foregoing, there is in my view ample evidence to conclude that Woon had been involved or engaged in the business of ReaQta by, *inter alia*, giving internal advice on the development of ReaQta-Core and how to market ReaQta-Core, as well as by promoting ReaQta-Core to external parties. His involvement went well beyond taking preparatory steps to moving on to new employment. In so doing, Woon was in breach of cl 10 of the Employment Agreement, as HT had not given its *written* consent as required under cl 10.

Whether HT had acquiesced to Woon's involvement in ReaQta

50 Alternatively, in his defence, Woon pleaded that HT had waived the requirement for written consent, or is estopped from relying on its strict legal rights. Specifically, Woon says that Vincenzetti and Russo had consented orally to his involvement in ReaQta. In his closing submissions, however, Woon relies on the defence of acquiescence, rather than the legal concepts of waiver and or estoppel. Be that as it may, I turn now to consider the merits of Woon's arguments as advanced in his closing submissions.

51 As contended by Woon, the defence of acquiescence operates where a person having a right, in the knowledge that another person is committing an act infringing that right, stands by in such a manner as really to induce the person committing the act to believe that he assents to its being committed. A person so standing by cannot afterwards complain of the act: *Towa Corp v ASM Technology Singapore Pte Ltd and another* [2017] 3 SLR 771 at [141]. Woon argues that HT acquiesced to his engagement in general freelance work of a "defensive" nature. By doing so, Woon contends that HT had acquiesced to Woon's involvement in ReaQta (which develops cybersecurity technologies which are "defensive" in nature).

52 Quite tellingly, Woon does not say that HT had acquiesced to the Woon's involvement in ReaQta *specifically*. [\[note: 76\]](#) Indeed, Woon had himself admitted that he never told anyone in HT about his involvement with ReaQta. In fact, he *omitted* to mention his involvement in a conversation about ReaQta with Maglietta, the sales manager in the Singapore office. I set out the relevant extracts of his cross-examination as follows: [\[note: 77\]](#)

Q: Did you tell anyone in HT what you were doing with Mr Pelliccione and ReaQta?

A: No, I didn't.

Q: In fact, during your entire period of employment with HT, you never once told anyone in HT that you were involved in ReaQta. Correct?

A: I told Mr Maglietta.

...

Q: All right. So you say you told Mr Maglietta that Mr Pelliccione was going to do this new product, but you left out the part of your involvement. Correct?

A: I wouldn't think my involvement was significant. ...

Q: Well, you left out that information.

A: Yes, I didn't think it was significant.

53 Instead, Woon avers that prior to his employment, during a 23 May 2012 meeting, he had informed Vincenzetti and Russo *generally* of his involvement in "freelance" work for "defensive" solutions (see [10] above). This was denied by both Vincenzetti and Russo. [\[note: 78\]](#) Even on this conversation, I find that Woon is on shaky ground. I agree with HT that it was quite unlikely that Woon would have raised this matter. At that time, the "freelance" work that he had in mind was his involvement with Xsecpro, [\[note: 79\]](#) which was a very trivial engagement that he had not even seen fit to inform his then-employer, BT, about, [\[note: 80\]](#) despite the fact that Xsecpro was carrying on the same business as BT. [\[note: 81\]](#) Moreover, Vincenzetti's evidence was that HT's practice in relation to such requests was that they would be expressly provided for in the contract between HT and the employee concerned. [\[note: 82\]](#) I accept his evidence. Further, if Woon were as concerned about his engagement with Xsecpro as he claimed to be, he would have made some attempt to negotiate an express stipulation for it, especially since this meeting was held prior to his entering into the Employment Agreement.

54 Even if I were to accept that Woon had informed Vincenzetti and Russo about his involvement in "defensive" solutions and that both men had consented to the same, I do not think that can be taken as a blank cheque authorisation of any and all *subsequent* involvement in "defensive" solutions – much less a defensive solution developed by a former employee – Pelliccione. Woon admitted that after the 23 May 2012 meeting, he never mentioned his "freelance" work ever again. [\[note: 83\]](#) Again, I think this is quite telling as to whether Woon himself understood HT to have acquiesced to his work with ReaQta. The fact remains that HT was never made aware of Woon's involvement with *ReaQta* specifically.

55 Woon suggests that the cordial manner in which he was treated even after HT found out about his involvement with ReaQta during his employment indicates that it had acquiesced to Woon's involvement. [\[note: 84\]](#) I disagree. While Russo accepted that the relationship remained cordial after HT discovered the matter on 6 February 2015, he explained that it was only so because HT was still weighing the options as follows: [\[note: 85\]](#)

Q: But even after this discovery, the communications and relationship between HT and Mr Woon were cordial. Correct?

A: Well, I think when we discovered it we were trying to figure out how to manage the situation because it was totally unexpected, but, yes, cordial.

56 Clearly, HT had not acquiesced to its employees working for ReaQta since it had engaged Kroll to execute a sting operation against such employees – in that case, Velasco. I accept Russo's explanation; it is perfectly reasonable that at that stage while HT was still weighing its options, it did not see fit to burn the bridges prematurely. In any case, I note that this discovery came at the tail end of Woon's employment. Even then, quite promptly thereafter, on 13 April 2015, HT demanded that Woon terminate his involvement with ReaQta.

57 I therefore find that HT had *not* acquiesced to Woon's involvement in ReaQta. Nor was Woon in any way induced by any statement or omission of HT to commence and subsequently continue his involvement in ReaQta. For completeness, I should add that I agree with HT that HT cannot be said to have waived its rights and/or be estopped on insisting on its legal rights either. Broadly, under these doctrines, HT must know of the relevant facts, and make an unequivocal representation to Woon that it is electing to waive its rights or that it will not enforce its legal rights in the future: *Audi Construction Pte Ltd v Kian Hiap Construction Pte Ltd* [2018] 1 SLR 317 at [54] and [57]. Based on the discussion above, Woon has failed to prove these matters.

58 In sum, I find that Woon engaged in the business of ReaQta by advising it and actually marketing ReaQta-Core, and that he had done so well within the period of his employment with HT. This was done without the prior written consent of HT, and HT did not acquiesce to his involvement with ReaQta. As such, Woon had breached cl 10 of the Employment Agreement.

Duty of good faith and fidelity

59 It is trite law that there is an *implied* term in the employer's favour that the employee will serve the employer with good faith and fidelity: *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 ("*Man Financial*") (at [193]). This includes a duty not to engage in outside employment which would inflict great harm on the employer's business: *ABB Holdings Pte Ltd and others v Sher Hock Guan Charles* [2009] 4 SLR(R) 111 ("*ABB Holdings*") at [86], citing *Hivac Limited v Park Royal Scientific Instruments Limited* [1946] Ch 169.

60 In *ABB Holdings*, the defendant was a former employee of the plaintiffs, which were in the business of manufacturing and marketing high, medium and low voltage circuit breakers. While still in the employ of the plaintiffs, the defendant worked on certain plans to develop and run the business of Xiamen Huadian Switchgear Co Ltd, a manufacturer of medium voltage circuit breakers. The defendant was found to be in breach of his duty of fidelity (at [86], [108] and [109(c)]).

6 1 *ABB Holdings* was a case in which the first and second employers manufactured interchangeable products. It is not clear to me that Galileo and ReaQta-Core are interchangeable such that they can be regarded as substitutes in the same market. They serve fundamentally different functions and objectives; the former is "offensive" and the latter is "defensive". [\[note: 86\]](#) As Vincenzetti himself put it: "One is a biological virus, the other one is penicillin, so *two different things in different markets*" [emphasis added]. [\[note: 87\]](#) In fact, Vincenzetti quite emphatically agreed that the products were *not* substitutes, and that potential clients could well be interested in purchasing

both solutions as follows: [\[note: 88\]](#)

Q: They are not market competitors in the sense that a law enforcement agency could very well purchase both offensive as well as defensive technology. Right, Mr Vincenzetti?

A: Thank you very much, Mr Choo, for this point. That's totally correct. Let me repeat your words, please. A law enforcement agency will buy McAfee and [RCS] simultaneously. Yes.

62 The fact that the customer base of both HT and ReaQta would include law enforcement and intelligence agencies does not make them competitors. The point is, as Vincenzetti himself pointed out, that law enforcement and intelligence agencies could very well purchase *both* "offensive" as well as "defensive" technologies. That, in my view, makes all the difference, contrary to HT's submission that it would be artificial to suggest that the two are not competing businesses simply because one sells "defensive" software and the other sells "offensive" software. [\[note: 89\]](#) In coming to this view, I acknowledge HT's contention that the definition of "Competitor" within the meaning of cl 12(a) of the Employment Agreement may be read to include a company like ReaQta which deals with "defensive" technologies. I discuss this further at [81] below, but for the issue at hand, that contractual definition is not directly pertinent.

63 Therefore, while HT and ReaQta might not be competitors (in that their products are not substitutes for each other), I think it right to say that an employee's outside employment may inflict harm on his existing employer's business not just where he participates in a competing business, but also where he participates in the development and promotion of a rival product which has as its sole *raison d'être* the neutralisation of the sole function of his existing employer's product.

64 The function of "offensive" software like Galileo is to allow the operator to surreptitiously gain access to the target computer so as to gather intelligence on the target. It is of first importance that the "offensive" software evades detection. If the target is alerted, it might deliberately change its behaviour so as to feed false intelligence to the operator. [\[note: 90\]](#) Galileo was marketed as being near-invisible to "defensive" software. If it were to be detected, detections were usually "solved" within three days by modifying and mutating Galileo's code, after which Galileo would become invisible to the anti-virus which detected it until that anti-virus was further updated again. [\[note: 91\]](#)

65 Pertinently, ReaQta-Core's unique selling point was its ability to detect and alert users to such fast-mutating "offensive" software. Its "behavioural analysis approach" allowed it to detect "offensive" threats based on their behaviour and not just their signatures, allowing it to detect even fast-mutating threats without the need for constant updates, making it, in Woon's words, "future-proof". [\[note: 92\]](#)

66 While there was no evidence that ReaQta-Core had been specifically designed and engineered to target and detect Galileo, according to the Kroll Report, both Pelliccione and Velasco confirmed that ReaQta-Core could in fact detect Galileo. [\[note: 93\]](#) When asked, Woon did not deny that ReaQta-Core could potentially detect Galileo: [\[note: 94\]](#)

Q: [The potential customer] wants to know what kind of malware ReaQta-core can detect. Correct?

A: That's correct.

...

A: ... And that's where I personally would tell the customer that because of the innovation of ReaQta-core, and also the behaviour analysis approach that we use, *we would possibly detect threats that other anti-viruses would not be.*

Q: *And one of those would be Galileo. Correct?*

A: *I didn't say Galileo in specific, but potentially, yes.*

[emphasis added]

67 Thus, in developing and marketing ReaQta-Core whilst still under the employ of HT, Woon was handling a product which had as its objective rendering ineffective products like HT's. Contrary to Woon's submissions, I find that in so doing, Woon was engaging in activity which harmed his existing employer, HT, in breach of his implied duty of good faith and fidelity.

Conclusion

68 In sum, I find that by marketing ReaQta-Core and advising ReaQta on its development and its marketable features, Woon had acted in breach of cl 10 of the Employment Agreement. I further find that such conduct was capable of causing harm to his employer, HT, and that he had thereby also breached his implied duty to serve HT with good faith and fidelity.

Issue 2: Whether Woon is liable in respect of the alleged post-termination breaches

69 The second group of alleged breaches arises from Woon's conduct *after* termination. The contractual terms purportedly breached are cl 12(b), a non-competition clause, and cl 13(b), a non-solicitation clause. I deal with each in turn.

Clause 12(b) of the Employment Agreement

70 Clause 12 restricts employees from engaging in business with any "Competitor", which is in turn defined as any person or undertaking which is engaged in any business or activity of the kind carried out by HT, without HT's prior consent. I set out the relevant parts of the provision here:

12. NON-COMPETITION

(a) In this Clause 12 the following word shall have the following meaning:-

"Competitor" means any person, concern, undertaking, firm or body corporate which on the Termination Date is engaged in or carries on and in any business or activity of the kind carried [sic] by the Company.

(b) You shall not without the prior consent of the Company, during the period of twelve (12) months from the Termination Date, seek or accept employment with or engagement by or otherwise perform services for or engage in business with or be in any way interested in or connected with any Competitor.

...

71 Turning to the applicable legal principles, all covenants in restraint of trade are *prima facie* void and unenforceable. Such a clause will only be enforceable if it protects a legitimate proprietary

interest, and if it is reasonable in the interests of both the parties and the public. Importantly, the clause can go no further than is necessary to protect that legitimate proprietary interest: *Smile Inc Dental Surgeons Pte Ltd v Lui Andrew Stewart* [2012] 4 SLR 308 at [19].

72 HT identifies two proprietary interests protected by cl 12(b). The first is HT's customer connection, given Woon's knowledge of and influence over HT's clients: *Tan Kok Yong Steve v Itochu Singapore Pte Ltd* [2018] SGHC 85 at [87]. [\[note: 95\]](#) The second is HT's confidential information, such as training samples and demonstration versions of the RCS software. [\[note: 96\]](#) HT argues that the "business or activity" carried on by HT is the "cyber intelligence and security" industry. Therefore, any company in the cybersecurity industry would fall within the provision, regardless of whether it is engaged in "offensive" or "defensive" technologies. Given the highly specialised nature of the business, and the customer base which is limited to law enforcement and intelligence agencies, the one-year time frame and the unlimited geographical scope do not render the clause unreasonable. As such, Woon, by getting involved in the business of ReaQta, breached the term. [\[note: 97\]](#)

73 Woon does not dispute that without HT's consent, he engaged in the business of ReaQta during the period of 12 months following his termination. However, Woon contends that cl 12(b) is void as an unreasonable restraint of trade. Relying on *Man Financial* at [92], Woon argues that trade connection and confidential information are not legitimate proprietary interests that may be protected by the non-competition provision because both of those interests are already protected by cll 13 and 11 of the Employment Agreement respectively. [\[note: 98\]](#) Further, Woon contends that the scope of the non-competition clause is wider than necessary to protect any legitimate proprietary interests; it is unreasonable in terms of the broad industrial scope, the unlimited geographical scope and the long duration provided within the clause. [\[note: 99\]](#) Indeed, ReaQta should not even be considered a competitor of HT. [\[note: 100\]](#)

Legitimate proprietary interest

74 I begin my analysis by considering the question of whether cl 12(b) protected a legitimate proprietary interest. In *Man Financial* at [92], the Court of Appeal set out the general proposition that where an employer's confidential information or trade connection are already directly protected by other contractual covenants, the remaining function of the non-competition clause in question would just be to inhibit competition, and would be invalid as follows:

... [*Stratech Systems Ltd v Nyam Chiu Shin (alias Yan Qiuxin) and others* [2005] 2 SLR(R) 579] reaffirms (at [48]–[49]) the proposition that where the protection of confidential information or trade secrets is already covered by *another* clause in the contract, the covenantee will have to demonstrate that the restraint of trade clause in question covers a legitimate proprietary interest *over and above* the protection of confidential information or trade secrets. Indeed, this proposition is, in our view, a *general* one and would apply equally in the context of other legitimate proprietary interests (for example, that of trade connection ...) as well. [emphasis in original]

75 Clause 11 of the Employment Agreement restricts the unauthorised use, disclosure, copying, extracting, translating, publication or communication of "trade secrets or confidential or business information". In so far as HT relies on "confidential information" as the legitimate proprietary interest to be protected by cl 12(b), this is clearly covered by cl 11, and does not constitute an interest *over and above* that directly protected by cl 11 of the Employment Agreement. That being the case, I hold that cl 12(b) cannot be relied on to protect HT's interest in its confidential information: *Stratech*

Systems Ltd v Nyam Chiu Shin (alias Yan Qiuxin) and others [2005] 2 SLR(R) 579 (“*Stratech*”) as affirmed in *Man Financial* at [92].

76 As for cl 13(b), that clause directly protects HT’s interest in its trade connection by restraining former employees like Woon from canvassing or soliciting business from its existing customers and its suppliers, being parties which had dealings with HT six months prior to their termination; these parties are defined to fall within the meaning of “Restricted Person” under cl 13(a): see [85] below. In this regard, HT submits that insofar as the general proposition set out in *Man Financial* is said to extend to trade connection (being a legitimate proprietary interest other than confidential information and trade secrets), that extension is *obiter dicta* because the *ratio* of the Court of Appeal in *Stratech* (referred to in *Man Financial* at [92]) only dealt with the employer’s interest in protecting its confidential information and trade secrets, and should not be applied when the legitimate interest in question is trade connection. Alternatively, HT argues that even if the general proposition in *Man Financial* applied, cl 12 *does* cover a legitimate proprietary interest over and above that covered by cl 13(b) because the latter does not protect HT’s trade connection with potential customers with which HT was having ongoing negotiations, or existing customers which did not have dealings with HT in the six months prior to termination.

77 Given the clearly defined scope of the non-solicitation restraint in cl 13, I am doubtful that there is any legitimate proprietary interest in HT’s trade connection remaining to be protected by cl 12. However, even if I were to accept that cl 12(b) protects HT’s interest in maintaining its trade connection, HT’s case still fails because the restrictions in cl 12 go beyond what is necessary to protect that interest.

Reasonableness

78 To elaborate, on the assumption that there is such a legitimate proprietary interest in trade connection to be protected, the question to be determined is whether cl 12 is reasonable in scope as between the parties.

79 Crucially, the time for ascertaining the reasonableness of a restrictive covenant is at the time it is entered into: *Man Financial* at [72]. As pointed out in *Lek Gwee Noi v Humming Flowers & Gifts Pte Ltd* [2014] 3 SLR 27 at [87], the restrictive covenant is construed bearing in mind the circumstances which the parties reasonably contemplated at the time they entered into the contract. The positive consequence of this is that if a restrictive covenant is reasonable as between the parties bearing in mind those circumstances, it will not become void simply because it could also be construed to cover unlikely situations outside their reasonable contemplation. However, if a restrictive covenant is unreasonably wide as between the parties bearing in mind those circumstances, it will not be saved simply because the covenantee proposes to breach an aspect of the restrictive covenant which is, in fact, reasonable as between the parties.

80 Where an employer seeks to proscribe the types of business in which an employee may become engaged once employment is over, he can do so if he can establish a close connection between the restriction and the work done by the employee prior to leaving. Moreover, the employer may only protect himself from activities by his employee *which might reasonably affect the customer connection which has been built up* (Alexandra Kamerling & Chris Goodwill, *Restrictive Covenants under Common and Competition Law* (Sweet & Maxwell, 6th Ed, 2010) at p 184).

81 With that, I turn to the first question of what HT’s business is. On a plain reading of cl 12(a), the “business or activity” of HT may well be treated as having a scope as wide as the entire cybersecurity and intelligence industry. Taking this wide view, any company in the cybersecurity and

intelligence industry may fall within the definition of a "Competitor". This is regardless of whether it is involved in "offensive" or "defensive" technologies. As I stated at [62] above, a company involved in "defensive" technologies is not even HT's competitor in the economic sense of the word. As Woon submits, this would include companies dealing with "defensive" software programmes such as McAfee or Symantec or Kaspersky. [\[note: 101\]](#) Potentially, such companies would not have any interest in HT's trade connection with customers of "offensive solutions". As such, I do not see a close connection between the business HT is in, with the businesses Woon is prevented from engaging in. Given what the parties would have reasonably contemplated, the industrial scope is far too broad. Indeed, HT argues for this wide reading for the obvious reason that otherwise, ReaQta would not fall within its ambit and Woon would not be in breach of cl 12. As between the parties, this clause is unreasonable.

82 Next, I turn to the restricted activities. In relation to any such competitor, cl 12(b) prohibits Woon not just from seeking employment with or providing his services to it, but also engaging in any business with it. In terms of employment, it is not confined to preventing Woon from performing roles which might affect HT's trade connection. The activities encompassed by cl 12(b) go beyond those which might reasonably affect the customer connection which HT has built up.

83 I should also mention that there is no geographical limit imposed by cl 12. The prohibition is worldwide. By Annex A of the Employment Agreement, Woon was to operate in the Asia-Pacific region. It is not seriously disputed that Woon was engaged primarily in the region. Again, in my view, the clause is far wider than necessary to restrain Woon from affecting the trade connection which have been built up. Given the lack of any geographical constraint, the duration of one year is also excessive.

84 Hence, cl 12(b) is a wide prohibition in restraint of trade which is unreasonable, and therefore void and unenforceable. By working for ReaQta while he was an employee of HT to develop and market ReaQta-Core, Woon was in breach of the implied duty of good faith and fidelity. However, post-termination, Woon did not owe any such duty not to harm HT's interest. Clause 12(b), being a non-competition clause, serves an entirely different purpose. Essentially, it is to protect HT's trade connection with its suppliers or customers from being poached by a former employee to the benefit of his new employer. To stretch cl 12(b) such that it restrains the employee from engaging in business with another employer – even where that employer does not compete with and has no interest in HT's trade connection with its suppliers or customers – would be a restraint that goes beyond what is necessary in order to protect its trade connection.

Clause 13(b) of the Employment Agreement

85 Clause 13 of the Employment Agreement is a non-solicitation clause which restricts employees from doing business with any "Restricted Person". As mentioned above, a "Restricted Person" is defined as any customer or supplier who had dealt with HT in the six months prior to the termination:

13. NON-SOLICITATION

(a) In this Clause 13 the following word shall have the following meaning:-

"Restricted Person" shall mean any person, firm or company who six (6) months prior to the Termination Date:

- (i) was provided with goods and/or services by the Company or any company in the Group;
- (ii) was a supplier of goods and/or services to the Company or any company in the Group;

or

(iii) dealt with the Company or any company in the Group as an agent for any person firm or company in (i) or (ii) above.

(b) You shall not, so as to compete with the Company or any other company in the Group, during the term of your employment and for a period of six (6) months after the Termination Date directly or indirectly, canvass or solicit business from or do business with any Restricted Person.

...

86 I agree with Woon that cl 13(b) is of no application here. [\[note: 102\]](#) HT's pleaded case is that Woon had breached this clause (and cl 12(b)) by being "employed with or engaged by or performing services for or engaging in businesses with ReaQta within 12 months of the Termination Date of his employment". [\[note: 103\]](#) ReaQta does not fall within the definition of a "Restricted Person". No evidence was led to the effect that in the course of his engaging in the business of ReaQta, Woon had dealt with a Restricted Person, *eg*, a past customer of HT. As such, I reject HT's submission that Woon was in breach of cl 13(b) of the Employment Agreement.

Conclusion

87 In sum, I reject HT's allegations of the post-termination breaches. I find that cl 12(b) of the Employment Agreement was void as an illegal restraint on trade. I find also that HT has not proven that Woon had breached cl 13(b) of the Employment Agreement.

Issue 3: Damages

88 As a result of the aforementioned breaches, HT claims that it suffered compensable loss. HT quantifies its damages in respect of three heads of loss as follows: [\[note: 104\]](#)

- (a) €1,806,537 for loss of profits due to insufficient level of sales in the Asia-Pacific region; [\[note: 105\]](#)
- (b) €3m for damage to its business reputation; [\[note: 106\]](#) and
- (c) €1,452,833 for the cost of re-engineering the RCS software. [\[note: 107\]](#)

89 In the alternative, HT claims that it is entitled to *Wrotham Park* damages to protect its performance interest in having Woon abide by the terms of the Employment Agreement.

90 HT no longer seeks an injunction against Woon not to persist with the post-termination breaches, since the period of restraint (12 months from the date of termination, *ie*, up till 20 March 2016) had lapsed by the time of the trial. [\[note: 108\]](#) In any case, as I find that the post-termination breaches are not proven, there is no basis for any injunction to be granted.

91 In quantifying the three heads of loss, HT called an accounting and audit expert, Dr Matteo Merini ("Merini"), to testify. Woon did not call any expert witnesses. I am mindful that while a court is not entitled to substitute his or her own views for those of an uncontradicted expert's, a court is not bound to unquestioningly accept unchallenged evidence. The court must carefully sift, weigh and evaluate expert evidence in the context of the objective facts, just as it would ordinary evidence of

fact (*Sakthivel Punithavathi v Public Prosecutor* [2007] 2 SLR(R) 983 at [76]).

92 I now go to each head of loss in turn. For each head of loss, I deal with causation, before turning to quantification of the loss.

Loss of profits

93 HT made zero new sales in the Asia-Pacific region in 2014, and attributes this to Woon's actions in relation to ReaQta-Core (particularly in marketing it), instead of finding and closing new business opportunities for HT. [\[note: 109\]](#) In my judgment, it is not proven that Woon's actions were a substantial cause of the fall in HT's revenues.

94 In the Singapore office, there was a sales manager, namely, Maglietta, while Woon was the Security Specialist. Certainly, Woon was tasked to perform certain pre-sales activities, such as performing demonstrations for potential customers, and performing tests and proofs of concept to determine if the RCS was compatible with the requirements of the potential customers. [\[note: 110\]](#) However, in cross-examination, Russo agreed that Woon was mainly in a technical role, and that Maglietta was primarily in charge of sales and revenue targets for the Singapore office. [\[note: 111\]](#) Then, according to Vincenzetti, the roles of the two men overlapped. [\[note: 112\]](#) Given this context, it was incumbent on HT to show or explain how it was Woon's actions that led to sales falling through in 2014.

95 In my view, HT fails to do so. For example, HT could have adduced correspondence with potential clients explaining that they had decided not to proceed with Galileo after Woon had informed them of its vulnerability to ReaQta-Core. There was no evidence of this sort. If indeed sales were indeed falling through at an abnormal rate, I would have expected someone from HT, including Maglietta, to have taken notice and to have asked for client feedback as to why purchases were abandoned, or not closed. Again, there was absolutely no evidence to that effect.

96 Pertinently, Woon was not the only source in the market for information about ReaQta-Core and its capabilities. Indeed, ReaQta itself was marketing ReaQta-Core. There was also evidence to suggest that at least one *other* sales consultant of HT, Velasco, was also involved in ReaQta and ReaQta-Core. While Velasco's activities mostly involved entities in the Americas, given the closely-knit nature of the law enforcement sector (as HT itself went to great lengths to establish), information sharing surely extended across regions. In the circumstances, it was insufficient for HT to simply assert that Woon had caused the loss of profits in the Asia-Pacific region simply by inference from the fact of his involvement in ReaQta. On the evidence before me, there was simply nothing to make good two crucial links in the chain of causation: (i) that the loss of profits was in fact due to clients and potential clients dropping Galileo because they had found out that ReaQta-Core could effectively neutralise it; and (ii) that the affected clients and potential clients had found this out from Woon.

97 In sum, HT has not proven that Woon's breaches of cl 10 of the Employment Agreement and his implied duty of good faith and fidelity were a substantial cause of the loss of profits suffered by HT in 2014. Therefore, I dismiss the claim for loss of profits.

Damage to business reputation

98 HT also claims that it suffered damage to its business reputation. On HT's case, ReaQta-Core "annulled the most significant competitive advantages" of Galileo, and in marketing such a product, Woon "destroyed the trust that customers and potential customers had in HT". [\[note: 113\]](#)

99 Loss of reputation generally makes for a non-pecuniary loss for which contractual damages are not recoverable. It is only where the claim involves *pecuniary* loss that damages may be awarded in contract (James Edelman, *McGregor on Damages* (Sweet & Maxwell, 20th Ed, 2018) at para 4-020, citing Hallett J in *Foaminol Laboratories v British Artid Plastics* [1941] 2 All ER 393 at p 399–400):

A claim for mere loss of reputation is the proper subject of an action for defamation, and cannot ordinarily be sustained by means of any other form of action ... [but] if pecuniary loss can be established, the mere fact that the pecuniary loss is brought about by the loss of reputation caused by a breach of contract is not sufficient to preclude the plaintiffs from recovering in respect of that pecuniary loss.

100 The same point was made by the Singapore High Court in *Arul Chandran v Gartshore and others* [2000] 1 SLR(R) 436 at [20]:

This case [*Malik and Mahmud v Bank of Credit and Commerce International SA (In Compulsory Liquidation)*] [1998] 1 AC 20] made it possible to recover financial loss, that is special damages, where a breach of contract damages one's reputation which in turn causes foreseeable financial loss to the claimant. ...

I also refer to *Wong Leong Wei Edward and another v Acclaim Insurance Brokers Pte Ltd and another suit* [2010] SGHC 352 at [50].

101 The authorities above establish that general damages for loss of reputation are not recoverable in claims for contractual breach. A contractual claim must be framed as one for special damages for pecuniary losses flowing from the damage to reputation. Such special damage must be specifically pleaded.

102 It is clear from HT's Statement of Claim (Amendment No 1) that only general damages were claimed. [\[note: 114\]](#) It is also clear from HT's written closing submissions and Merini's expert report that HT's claim was not for special damages in respect of pecuniary loss suffered, but for general damages for loss of reputation. Although this loss was sought to be quantified on the basis of an alleged loss of profits from 2015 onwards (a pecuniary loss), this was merely the way in which the damage to reputation would be quantified; it was *not* the subject of a separate claim for special damages. [\[note: 115\]](#) As such, HT is not entitled to damages in respect of this head of loss.

103 However, for completeness, I shall state my views on causation and quantification of the loss. The issue of causation would have proved a considerable obstacle to HT's claim. Merini himself took pains to emphasise that it would be extremely difficult to assess the impact of Woon's actions on HT's business reputation, in light of a hacking attack on HT's servers in July 2015. This undoubtedly had a significant impact on HT's reputation especially since HT is a specialist in cybersecurity. [\[note: 116\]](#)

104 To elaborate, the hack released much of HT's sensitive information, including a list of HT's clients, which could have put potential surveillance targets on notice that they were being watched. [\[note: 117\]](#) The hacking attack and its effects were widely reported, and went directly to HT's competence and effectiveness *as a company*, as opposed to the marketing of ReaQta-Core, which went only to the effectiveness of the contemporaneous version of RCS at the time, Galileo. In my judgment, any adverse impact Woon's marketing of ReaQta-Core might have had must have paled in comparison to the fallout from the July 2015 hacking attack. I therefore reject Merini's assertion that the damage caused by Woon's acts was "significant". [\[note: 118\]](#) That was an unsubstantiated

assertion which in my view ran against the weight of the objective facts.

105 The difficulties with respect to causation also present themselves in Merini's quantification of the loss. In fact, I note that all he was able to say was that an *estimate* of the total loss of reputation (as approximated by the lost profits for 2015 and 2016) amounted to a total of €3.057m. [\[note: 119\]](#) Merini did not place a figure on the damage attributable to Woon's breaches, nor did he even hazard an estimate as to the rough percentage of damage attributable. He went no further than to say that in his opinion the damage caused would have been "significant".

106 To summarise, I dismiss HT's claim for general damages for loss of business reputation. Damages for such non-pecuniary loss are not recoverable at law where the claim is founded in contract. In any case, it is not proven that it was Woon's breaches of the Employment Agreement, and not the July 2015 hacking attack, which caused the alleged loss of reputation.

Cost of re-engineering RCS

107 The third head of loss is the cost of re-engineering the RCS software, which, HT says, became necessary as soon as it found out about ReaQta-Core in February 2015 as a result of the Kroll investigations. According to HT, "[b]ecause of ReaQta-core, it was neither commercially viable nor ethically acceptable to continue using any element of the Galileo", with the result that it had to be completely re-engineered from scratch, a process involving the re-writing of some 1.5m lines of code. [\[note: 120\]](#) On his part, Woon denies that his breaches had necessitated a complete re-writing of the RCS code.

108 The issue before me is whether Woon's breach can be said to have caused the re-engineering of RCS so that he should be liable for the cost of doing so. On that issue, I find against HT for two reasons.

109 First, HT was unable to prove that the emergence of ReaQta-Core required a complete re-write of the RCS software. There was no reason why the *entire* code had to be re-engineered "from scratch" just because a particular "defensive" software, ReaQta-Core, had detected Galileo. On Vincenzetti's own evidence, it was not uncommon for even generic antivirus software to detect Galileo from time to time; HT even maintained an "Invisibility List" tracking the brands of antivirus software which were able to detect Galileo at any given time. [\[note: 121\]](#) In such situations, HT's engineers would then work to patch the RCS so as to make it "invisible" to such antivirus software again – a process which, Vincenzetti confirmed, typically took three days. [\[note: 122\]](#)

110 In this regard, HT's point appears to be that the threat posed by ReaQta-Core to Galileo stood in a different category from that posed by generic antivirus software because its behaviour-based (as opposed to signature-based) detection technology allowed it to consistently detect malware like Galileo without the need for constant updates (see [65] above). This might have been a rather compelling point had it been *proven* that ReaQta-Core's behavioural approach to detection (or, for that matter, any other peculiar aspect of ReaQta-Core's design or operation) was such as to require a more fundamental overhaul of the RCS instead of the usual piecemeal patch updates.

111 Unfortunately, this point is not made out on the evidence. In particular, there is a complete dearth of any evidence whatsoever on what are, in my view, two crucial points: first, that HT had, at the time, considered ReaQta-Core a mortal threat to Galileo; and relatedly, the measures that would have had to be taken in order to resolve Galileo's vulnerability to ReaQta-Core. Instead, HT merely asserts that since ReaQta-Core was an "antidote" to Galileo, the "only prudent course of action for

HT would have been to re-engineer the software from ground up". [\[note: 123\]](#)

112 In my view, it was incumbent on HT to *prove* that Galileo was, as a matter of technical fact, particularly vulnerable to ReaQta-Core, and that that particular vulnerability necessitated, on technical grounds, a complete re-write of the software. This was not done. I note that HT had originally intended to call an expert on information security, Dr Francesco Schifilliti, to give evidence on ReaQta-Core's ability to *permanently neutralise* Galileo and the technical reasons for why it could do so. Unfortunately, Dr Schifilliti was eventually not called as a witness, and his evidence on this point is not before me. Further, there is no contemporaneous record to prove that HT made the decision to re-engineer RCS because of the discovery of Woon's involvement in ReaQta and ReaQta-Core.

113 In this regard, the time at which the decision was made by HT to re-engineer ReaQta-Core is of critical importance because, not more than five months after Woon's involvement with ReaQta was discovered, HT suffered a hacking attack on its servers. In the course of this attack, the source code of Galileo was released. [\[note: 124\]](#) This would clearly have necessitated a complete re-write of the RCS software. Against this, Vincenzetti simply made a bare assertion that he had already resolved to re-engineer the RCS software from the moment he discovered Woon's involvement with ReaQta in February 2015. [\[note: 125\]](#) Yet, no evidence was even led that the re-engineering work had commenced at any time *before* July 2015. Nor did HT adduce any evidence that a decision had been taken to re-engineer RCS before the hack occurred, whether in the form of internal email discussions, minutes or progress updates, or instructions to engineers diverting resources to the re-engineering of RCS. [\[note: 126\]](#)

114 Therefore, I find that HT has not shown that the cost of re-engineering the RCS was caused by Woon's breaches of the Employment Agreement. I reject Vincenzetti's assertion that HT had "resolved" to proceed with re-engineering the RCS software in February 2015 when it found out about Woon's involvement with ReaQta. On the evidence before me, there is nothing to prove that the threat that ReaQta-Core posed was so significantly or qualitatively different from the threat posed by any other "defensive" software on the Invisibility List that it would necessitate a complete re-write, and that a decision to proceed with a complete re-write took place before July 2015.

115 In the premises, I dismiss HT's claim for the cost of re-engineering the RCS software. Only for completeness, I also state my observations on Merini's quantification of the aforementioned cost.

116 Merini's assessment of the cost of engineering was not based on direct documentary evidence of the costs incurred, but rather an extrapolation based on an increase in the value of "industrial patents and intellectual property rights" as stated in HT's financial statements from the time before (2014) and after (2015) the RCS was re-engineered. [\[note: 127\]](#) When pressed, Merini explained that these costs would have comprised "personnel costs", as well as "other variable costs such as material and other issues". With respect to the personnel costs, Merini's instructions were that the re-engineering of Galileo took some three months. As Woon's counsel pointed out, the "Total payroll and related costs" for 2014 as reflected in the financial statement for that year amounted to €2,525,343. [\[note: 128\]](#) Assuming that these costs were salary costs incurred in a linear fashion, the personnel costs for three months amounts to only €631,335.75 – a far cry from the €1,137,977 which Merini derived as the "amount of new investments in software made in 2015". [\[note: 129\]](#)

117 Given that the re-engineering was supposed to have taken place in 2015 (after HT was alerted to ReaQta-Core in February 2015), if at all, I am of the view that for comparison purposes, the costs

from the financial statement for 2015 should have been used instead. For 2015, the "Total payroll and related costs" as reflected in the financial statement for that year amounted to €2,788,272. [\[note: 130\]](#) Again, assuming that these costs were salary costs incurred in a linear fashion, the personnel costs for three months amount to only €697,068. Indeed, there is a significant difference from the sum of €1,137,977 derived by Merini. This, in my view, cast some doubt on the use of the increase in the valuation of HT's "industrial patents and intellectual property rights" as an appropriate proxy for the costs incurred in re-engineering the RCS.

Wrotham Park damages

118 In the alternative, HT submits that should the court find that HT did not suffer any pecuniary loss, it is entitled to *Wrotham Park* damages to protect its performance interest in having Woon abide by the terms of the Employment Agreement.

119 The nature and applicability of *Wrotham Park* damages (named after the case of *Wrotham Park Estate Co Ltd v Parkside Homes Ltd* [1974] 1 WLR 798) was very recently and comprehensively discussed by the Court of Appeal in *Turf Club Auto Emporium Pte Ltd and others v Yeo Boong Hua and others and another appeal* [2018] 2 SLR 655 ("*Turf Club*"), and *Wrotham Park* damages were described as follows (at [130]):

... In essence, *Wrotham Park* damages are an exceptional remedy awarded in situations involving a breach of contract where the award of orthodox compensatory damages either by way of expectation loss or reliance loss is not possible. The court, in applying the *Wrotham Park* doctrine, awards the plaintiff damages measured by such a sum of money as might reasonably have been demanded by him from the defendant as a *quid pro quo* for relaxing the covenant between them. This is a "licence fee" which the plaintiff could reasonably have extracted in return for his consent to the defendant's actions that would otherwise constitute a breach of contract. This is an objective calculation by reference to a hypothetical bargain rather than the actual subjective conduct and position of the parties.

[emphasis in original omitted]

120 The test for when an award of *Wrotham Park* damages would be appropriate was set out in the following manner (*Turf Club* at [217]):

In our judgment ... there are three legal requirements that need to be satisfied before a court can award *Wrotham Park* damages ... :

(a) First, as a threshold requirement, the court must be satisfied that orthodox compensatory damages (measured by reference to the plaintiff's expectation or reliance loss) and specific relief are unavailable.

(b) Second, it must, as a general rule, be established that there has been (in substance, and not merely in form) a breach of a negative covenant.

(c) Third, and finally, the case must not be one where it would be irrational or totally unrealistic to expect the parties to bargain for the release of the relevant covenant, even on a hypothetical basis. In other words, it must be possible for the court to construct a hypothetical bargain between the parties in a rational and sensible manner.

...

121 Here, I agree with Woon's argument that the first requirement is not satisfied. [\[note: 131\]](#) This is not a case where the orthodox compensatory damages are unavailable. Indeed, this is made plain by HT's claims for the loss of profits and the costs of re-engineering RCS. As discussed above, what HT has failed to do is to prove that Woon caused the losses claimed, and HT has not proven the quantum of its losses. In other words, orthodox compensatory damages are possible, but that there is insufficiency of evidence to support the claims for such damages. As the first requirement is not fulfilled, there is no basis to award *Wrotham Park* damages.

Conclusion

122 Given the discussion on the heads of damages above, HT has not proven its losses arising from Woon's pre-termination breaches. In these circumstances, I am of the view that an award of nominal damages is appropriate. This is to affirm that there is an "infringement of a legal right", which while it gives HT "no right to any real damages at all", gives HT "a right to the verdict or judgment" because of the infringement of the legal right: *The Owners of the Steamship "Mediana" v The Owners, Master and Crew of the Lightship "Comet"* [1990] AC 113 at 116. Accordingly, I award nominal damages of \$1,000.

Issue 4: Woon's counterclaim for unpaid salary and expenses

123 Finally, I turn to Woon's counterclaim for unpaid salary and expenses incurred in the course of his work for HT. I deal with each in turn.

Unpaid salary

124 Woon's case is that by an email dated 12 February 2015, HT agreed to pay his salary up till 20 March 2015. On 12 February 2015, at 3.38pm, Woon wrote to Russo, apparently recording an earlier agreement reached between them: [\[note: 132\]](#)

Hi Giancarlo,

As agreed by both parties with the condition that HT will compensate me my salary till 20 March 2015, I agree to an early termination and my last day of work in HT shall be 13 February 2015. HT equipment shall be return on or before 23rd February 2015.

Regards,

Serge

125 On the same day, at 11.15pm, Russo replied:

Hi Serge,

As already discussed, we need to have all the company equipment delivered at the termination date, that as correctly stated by you, was agreed by both of us to be effective on February 13th.

Giancarlo

126 HT's reply is that no agreement was reached as to the payment of salary in the exchange of emails set out above; Russo's agreement was confined to the termination date being 13 February

2015; the email was silent on the point that HT would also pay Woon's salary up till 20 March 2015. [\[note: 133\]](#)

127 While the general rule is that silence does not constitute acceptance, a well-established exception to that rule exists where there is an "implied obligation to speak" arising out of the course of negotiations between the parties (*Chitty on Contracts* (H G Beale gen ed) (Sweet & Maxwell, 33rd Ed, 2018) at para 2-071). In my view, such an obligation to speak arises where one party purports to state certain terms as agreed between the parties, and invites the other party to object to or correct the terms as stated.

128 Here, Woon quite clearly stated that payment of his salary, amongst other matters, had been agreed between the parties. I would have expected Russo to strenuously object if HT had added to or varied the substance of their agreement.

129 Indeed, from Russo's evidence under cross-examination, it would appear that he understood their agreement to encompass the agreement that HT would pay Woon's salary until 20 March 2015: [\[note: 134\]](#)

Q: Mr Russo, I say "cordial" because you also agreed notwithstanding the early release of Mr Woon to pay his salary up until the last day of his official term of employment. Correct?

A: Correct.

130 Based on the foregoing, I find that HT, through Russo, had agreed to pay Woon's salary up till 20 March 2015. The only other defence raised by HT was that it was not liable to pay Woon because of Woon's breaches of the Employment Agreement. But the authorities are clear that an employer is generally not entitled to withhold payment of salary just because the employee is in breach of the employment agreement (*Schonk Antonius Martinus Mattheus and another v Enholco Pte Ltd and another appeal* [2016] 2 SLR 881 at [15]):

[A]n employer may claim damages for any breach of duty by its employee but such a breach will not by itself disentitle the employee to his or her salary. Rather, the employer may make a deduction from the salary in respect of such loss as it proves it has suffered by reason of the employee's breach (*Sagar v H Ridehalgh and Son, Limited* [1931] 1 Ch 310 at 325).

131 Therefore, I allow Woon's counterclaim for unpaid salary for one month and 15 days from 6 February 2015 to 20 March 2015, being \$23,545.45 and CPF employer's contributions over the same period of time being \$1,700.00.

Expenses

132 Woon also claims upon two receipts for expenses which he says were incurred in furtherance of his duties whilst still employed by HT.

133 The first is a claim for \$345.47 for accommodation expenses incurred at the Hotel Amari Dhaka on 18 November 2014 during a trip to Bangladesh for a product demonstration. [\[note: 135\]](#) HT, through its employee, Lucia Rana, agreed to reimburse Woon in respect of this claim in an email dated 13 February 2015. [\[note: 136\]](#) Accordingly, I allow the counterclaim in respect of the Bangladesh expenses.

134 The second is a claim for \$70.53 for expenses incurred during a product demonstration in Malaysia on 10 February 2014. [\[note: 137\]](#) As Woon could not produce any written endorsement from HT of that expenditure or an undertaking to reimburse Woon for it, I dismiss the counterclaim for the Malaysia expenses.

Conclusion

135 To summarise, on the claim, I find that prior to the termination of his employment, Woon acted in breach of cl 10 of the Employment Agreement, as well as his duty to serve HT with good faith and fidelity. After the termination of his employment, I do not find Woon to be in breach of cll 12 and 13 of the Employment Agreement. As HT has not proven that it suffered substantial losses arising from Woon's breaches, I award nominal damages of \$1,000 for the claim.

136 As for Woon's counterclaim, I allow the claim for unpaid salary from 6 February 2015 to 20 March 2015, being \$23,545.45, with employer's contribution of CPF over the same period of time being \$1,700.00. I also allow the claim for reimbursement of expenses in the sum of \$345.47.

137 Interests on the sums are awarded at the rate of 5.33% per annum from the date of writ and date of counterclaim until the date of judgment respectively.

138 I will hear parties on costs.

[\[note: 1\]](#) AEIC of David Vincenzetti dated 1 June 2018 ("DV1") at paras 4 and 5.

[\[note: 2\]](#) DV1 at para 1.

[\[note: 3\]](#) DV1 at paras 5 and 8.

[\[note: 4\]](#) AEIC of Alberto Pelliccione dated 12 July 2018 ("AP") at para 1.

[\[note: 5\]](#) DV1 at paras 12–15.

[\[note: 6\]](#) DV1 at para 18.

[\[note: 7\]](#) AEIC of Woon Wee Shuo dated 4 June 2018 ("WWS") at para 18.

[\[note: 8\]](#) WWS at para 48.

[\[note: 9\]](#) AP at para 1; DV1 at para 52.

[\[note: 10\]](#) AP at paras 15–19.

[\[note: 11\]](#) Tr/15.08.18/11–12.

[\[note: 12\]](#) Tr/15.08.18/12/9–23.

[\[note: 13\]](#) WWS at paras 10–11; Tr/15.08.18/15–16.

[\[note: 14\]](#) WWS at para 14.

[\[note: 15\]](#) WWS at paras 18–19.

[\[note: 16\]](#) 1AB 253.

[\[note: 17\]](#) Tr/15.08.18/64–65.

[\[note: 18\]](#) WWS at paras 32–34.

[\[note: 19\]](#) Tr/15.08.18/75/2–9.

[\[note: 20\]](#) DV1 at paras 46–47.

[\[note: 21\]](#) AEIC of Robert Addona dated 1 June 2018 (“RA”) at paras 24 and 25.

[\[note: 22\]](#) RA at p 10 (Exhibit RA-1).

[\[note: 23\]](#) WWS at paras 37, 39, 43; AEIC of Giancarlo Russo dated 1 June 2018 (“GR”) at paras 19–20; DV1 at para 45.

[\[note: 24\]](#) Clause 14(a) of the Employment Agreement.

[\[note: 25\]](#) WWS at para 43, p 50.

[\[note: 26\]](#) WWS at para 46.

[\[note: 27\]](#) WWS at para 47.

[\[note: 28\]](#) WWS at para 50.

[\[note: 29\]](#) DV1 at para 50.

[\[note: 30\]](#) DV1 at para 51.

[\[note: 31\]](#) Statement of Claim (Amendment No 1) dated 7 August 2018 (“SOC”) at paras 7, 9(g) and 10(a).

[\[note: 32\]](#) SOC at para 9(h).

[\[note: 33\]](#) SOC at para 9(b).

[\[note: 34\]](#) SOC at para 9(i).

[\[note: 35\]](#) SOC at paras 10(c)–(e).

[\[note: 36\]](#) Prayers in the SOC.

[\[note: 37\]](#) Defence and Counterclaim (Amendment No 2) dated 8 August 2018 ("D&C") at paras 11–12.

[\[note: 38\]](#) D&C at paras 4 and 9.

[\[note: 39\]](#) D&C at para 10.

[\[note: 40\]](#) D&C at para 22.

[\[note: 41\]](#) D&C at para 17.

[\[note: 42\]](#) D&C at paras 5, 22–23.

[\[note: 43\]](#) D&C at paras 27–28.

[\[note: 44\]](#) D&C at para 8.

[\[note: 45\]](#) Reply and Defence to Counterclaim (Amendment No 2) dated 23 November 2017 ("R&DC") at paras 5–6.

[\[note: 46\]](#) R&DC at para 4A.

[\[note: 47\]](#) R&DC at para 7.

[\[note: 48\]](#) R&DC at para 9.

[\[note: 49\]](#) SOC at para 7.

[\[note: 50\]](#) D&C at para 8.

[\[note: 51\]](#) WWS at pp 24–31.

[\[note: 52\]](#) Plaintiff's closing submissions dated 27 September 2018 ("PCS") at para 132.

[\[note: 53\]](#) Defendant's closing submissions dated 27 September 2018 ("DCS") at paras 115, 118.

[\[note: 54\]](#) DCS at paras 202–215.

[\[note: 55\]](#) WWS at para 40; Tr/15.08.18/114–115.

[\[note: 56\]](#) RA at p 30.

[\[note: 57\]](#) RA at p 31.

[\[note: 58\]](#) Tr/07.08.18/11/1–20.

[\[note: 59\]](#) RA at p 30.

[\[note: 60\]](#) Tr/15.08.18/117/13–16.

[\[note: 61\]](#) DCS at paras 138, 141–142; Tr/15.08.18/125–126.

[\[note: 62\]](#) WWS at para 32.

[\[note: 63\]](#) Tr/15.08.18/66/4 – 67/5.

[\[note: 64\]](#) WWS at para 34; AP at para 32.

[\[note: 65\]](#) PCS at paras 227, 231; 2AB 940.

[\[note: 66\]](#) 2AB 945.

[\[note: 67\]](#) Tr/15.08.18/95/15 – 96/8.

[\[note: 68\]](#) 2AB 945.

[\[note: 69\]](#) Tr/15.08.18/105/12–25.

[\[note: 70\]](#) Tr/15.08.18/75/2–9.

[\[note: 71\]](#) Tr/21.08.18/20/15–18.

[\[note: 72\]](#) Tr/15.08.18/75–76.

[\[note: 73\]](#) DCS at para 128; Tr/15.08.18/125–126.

[\[note: 74\]](#) WWS at p 101.

[\[note: 75\]](#) Tr/21.08.18/61/20 – 62/23.

[\[note: 76\]](#) DCS at para 204.

[\[note: 77\]](#) Tr/15.08.18/67/9 – 68/9.

[\[note: 78\]](#) DV1 at para 77; GR at para 12.

[\[note: 79\]](#) Tr/15.08.18/29/2–4.

[\[note: 80\]](#) Tr/15.08.18/29/10–14.

[\[note: 81\]](#) Tr/15.08.18/13/14 – 15/3.

[\[note: 82\]](#) DV1 at paras 78–79.

[\[note: 83\]](#) Tr/15.08.18/35/8–10.

[\[note: 84\]](#) DCS at para 216.

[\[note: 85\]](#) Tr/10.08.18/6/14–19.

[\[note: 86\]](#) DCS at paras 28–29.

[\[note: 87\]](#) Tr/14.08.18/26/18–20.

[\[note: 88\]](#) Tr/14.08.18/35/24 – 36/6.

[\[note: 89\]](#) PCS at paras 205–209.

[\[note: 90\]](#) Tr/15.08.18/55/11 – 56/6.

[\[note: 91\]](#) Tr/14.08.18/80/10–24.

[\[note: 92\]](#) Tr/16.08.18/81/22 – 82/14.

[\[note: 93\]](#) RA at pp 24, 27.

[\[note: 94\]](#) Tr/15.08.18/141/16 – 142/15.

[\[note: 95\]](#) PCS at para 218.

[\[note: 96\]](#) PCS at para 219.

[\[note: 97\]](#) PCS at paras 205–226.

[\[note: 98\]](#) DCS at paras 63–78.

[\[note: 99\]](#) DCS at paras 57, 79–98.

[\[note: 100\]](#) DCS at paras 13–14.

[\[note: 101\]](#) DCS at para 89.

[\[note: 102\]](#) DCS at paras 100, 102.

[\[note: 103\]](#) SOC at para 10(e).

[\[note: 104\]](#) PCS at para 256.

[\[note: 105\]](#) PCS at paras 258 and 259.

[\[note: 106\]](#) PCS at para 263.

[\[note: 107\]](#) PCS at para 264.

[\[note: 108\]](#) PCS at para 44.

[\[note: 109\]](#) PCS at paras 257 and 269.

[\[note: 110\]](#) GR at para 9.

[\[note: 111\]](#) Tr/10.08.18/6/4–8.

[\[note: 112\]](#) Tr/14.08.18/7/19–25.

[\[note: 113\]](#) PCS at para 263.

[\[note: 114\]](#) SOC at p 11.

[\[note: 115\]](#) PCS at para 263; AEIC of Matteo Merini dated 1 June 2018 (“MM”) at p 22 (para 65), p 23 (para 68).

[\[note: 116\]](#) MM at p 22 (para 66), p 24 (para 73).

[\[note: 117\]](#) DCS at para 299; DV1 at para 93.

[\[note: 118\]](#) MM at p 24 (para 73).

[\[note: 119\]](#) MM at p 24 (para 72).

[\[note: 120\]](#) PCS at para 270.

[\[note: 121\]](#) Tr/14.08.18/42/8–16.

[\[note: 122\]](#) Tr/14.08.18/80/24.

[\[note: 123\]](#) PCS at para 264.

[\[note: 124\]](#) Tr/16.08.18/49/18–24.

[\[note: 125\]](#) DV1 at para 93.

[\[note: 126\]](#) DCS at para 282.

[\[note: 127\]](#) MM at p 25 (paras 77–81); Tr/07.08.18/36–38.

[\[note: 128\]](#) DCS at para 335; MM at p 177, line B9.

[\[note: 129\]](#) MM at p 25 (para 79).

[\[note: 130\]](#) MM at p 181, line B9.

[\[note: 131\]](#) Defendant's reply closing submissions dated 13 March 2019 at paras 8–24.

[\[note: 132\]](#) 1AB 305.

[\[note: 133\]](#) PCS at para 281.

[\[note: 134\]](#) Tr/10.08.18/9/12–16.

[\[note: 135\]](#) D&C at para 28(a).

[\[note: 136\]](#) WWS at p 44.

[\[note: 137\]](#) D&C at para 28(b).