

# Public tender offer by Aquamit B.V. for the publicly-held registered shares of Quadrant AG

Review body report on *Nebenleistungen* and minimum price rule compliance

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## 1. Introduction

As review body for the Aquamit B.V (“Aquamit” or the “Joint Venture”) tender offer for the publicly-held registered shares of Quadrant AG (“Quadrant”), our assignment is to assess the relevance and value of each of the “*Nebenleistungen*” (“benefits”) identified so far by Sarasin Investment Funds AG (“Sarasin”), Quadrant, and Aquamit (collectively the “Parties”)<sup>1</sup> as well as all other material benefits yet to be identified<sup>2</sup>. As a second step, we have been instructed to assess whether the Aquamit offer complies with the minimum price rule.

In the absence of direct contact with the Parties, we have principally relied on the case documentation made available to us by the Takeover Board, publicly available information, expert and academic papers as well as responses to our document and information requests.

We have worked under the following assumptions:

- a. Our analysis is back-dated to May 1<sup>st</sup>, 2009.
- b. We have ignored issues already investigated, but closed.
- c. In the absence of direct interaction with management, we have relied on the PriceWaterhouseCooper SA’s (“PWC”) business plan, extended to 2024.
- d. The case background is common knowledge to our audience.
- e. Except where noted otherwise, our time horizon is 15 years<sup>3</sup>.
- f. For simplification purposes, and except where noted otherwise, we have used PWC’s weighted average cost of capital (“WACC”) of 8.25% as discount rate<sup>4</sup>.

## 2. Financing advantage

### 2.1. Context and methodology

- a. The financing provided by Mitsubishi Plastics Inc. (“MPI”) to Aquamit and Quadrant was central to the feasibility and success of the takeover.
- b. The rate granted by MPI, while in line with intra-group financing, was significantly below market rates. This constitutes a benefit<sup>5</sup> to Dr. Adrian Niggli, Dr. Arno Schenk, Dr. René-Pierre Müller and Dr. Walter Grüebler (collectively, the “Founders”).
- c. Our valuation framework is similar to IFBC AG’s<sup>6</sup> (“IFBC”):

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<sup>1</sup> See p. 11 of Takeover Board *Verfügung 410/04* dated November 14<sup>th</sup>, 2011: “a) der Wertvorteil für das Management aus Finanzierungsleistungen durch MPI an Aquamit B.V. (Verzinsung des Akquisitionsdarlehens); b) der Wertvorteil für MPI aufgrund des Know-hows und der Erfahrung des Managements (Synergiepotential); c) der Mehrwert für MPI aus der Vollkonsolidierung (positive Effekte bei der Positionierung und der Berichterstattung von MPI); d) der Mehrwert betreffend die Gewährleistungen des Managements zugunsten MPI; e) den Wertvorteil bei einem Verzicht auf Entschädigungszahlungen im Falle eines späteren Kontrollwechsels; f) der Wertvorteil aufgrund des Pfandrechts an Quadrant-Aktien; g) der Mehrwert betreffend die fünfjährige Lock-up Periode für das Management; h) der Mehrwert des vom Management übernommenen Risikos im Falle des Scheiterns des Übernahmeangebots.”

<sup>2</sup> See sections 6 and 9.

<sup>3</sup> In line with the Parties’ consensus on time horizon. This corresponds to the legal life of the Joint Venture or the sum of the initial 5-year lock-up period plus the subsequent 10-year financing period enabled by the Founders rights.

<sup>4</sup> See PWC’s fairness opinion dated April 30<sup>th</sup>, 2009 (“PWC FO”).

<sup>5</sup> See Section 8.2 of *Bundesverwaltungsgericht’s* ruling dated November 30<sup>th</sup>, 2010 (the “Court Ruling”): “Dass diese Finanzierungen, insbesondere die Zinskonditionen der PTO-Wandelanleihe, wesentlich günstiger sind als ein entsprechendes Darlehen von einem anderen Kreditgeber gewesen wäre, ist weitgehend ebenfalls unbestritten und offensichtlich.”

<sup>6</sup> See introduction to section 2 of the IFBC report dated February 11<sup>th</sup>, 2011 (the “IFBC Report”).

- i. **Step 1:** Assessing a “shadow rating” (section 2.2.).
  - ii. **Step 2:** Assessing the nature of the MPI financing through a debt capacity analysis (section 2.3.).
  - iii. **Step 3:** Comparing the rate granted by MPI to the prevailing market rates for that rating category and capital structure (section 2.4.).
  - iv. **Step 4:** Discounting the rate advantage over 15 years (section 2.5.).
- d. Our analysis relies primarily on rating agency methodologies<sup>7</sup>, as these are published and universally accepted in the capital markets.
  - e. Like IFBC and PPCmetrics, we focus our evaluation on the Public Take-Over (“PTO”) bond (the “PTO Bond”) since the other components of the MPI financing package were structured for quick refinancing.
  - f. The PTO Bond was in the form of convertible bonds, which typically benefit from lower coupons due to the embedded call option. However, given Aquamit’s ability to deny conversion<sup>8</sup>, the call options have little value. The PTO Bond should therefore be valued as a straight financing from a pricing perspective<sup>9</sup>.

## 2.2. Rating assessment

- a. IFBC assigns an A to BBB rating to Quadrant stand-alone<sup>10</sup>. We cannot validate this optimistic conclusion:
  - i. **Scale:** Scale is an essential criterion for rating agencies<sup>11</sup>. Quadrant is a leader, but it is a relatively small company in a small market as compared to peers in the investment grade category.
  - ii. **Cyclical:** Quadrant’s cyclical business exacerbates the scale issue<sup>12</sup>.
  - iii. **Scope:** From a credit rating standpoint Quadrant should not be analyzed stand-alone: Aquamit and Quadrant (the “Group”) are one entity<sup>13</sup>.

<sup>7</sup> Unlike IFBC and PPCmetrics AG (“PPCmetrics”), we have relied not only on Standard & Poor’s (“S&P”) but also, and principally, on Moody’s Investor Services (“Moody’s”), the latter being significantly more transparent in its methodology. See Moody’s Investors Services *Rating Methodology for the Global Manufacturing Industry*, S&P 2008 *Corporate Rating Criteria: Ratios And Adjustments* and 2008 *Corporate Rating Criteria*.

<sup>8</sup> Neither the convertible bond agreements nor the Joint Venture agreement provide for any circumstances under which the convertible bonds may be converted without the consent of the issuer and consequently without the consent of the Founders as a group. This is confirmed by MPI’s response to our questions dated March 16<sup>th</sup>, 2012 which states that “Such conversion right would have destabilized the 50-50 joint venture between MPI and the Management and would have put MPI in a controlling position, which was not acceptable to the Management. This would not have been in line with the parties’ intention to create a joint venture in which both sides had equal rights. Consequently, MPI and the Management agreed that the loan could not be converted at the sole discretion of MPI, but only with consent of the Management.”

<sup>9</sup> With the same conditions prevailing over the 15 years as indicated by the response of MPI to our question dated May 11<sup>th</sup>, 2012 stating that “the refinancing of the convertible bonds would have to be made in line with the terms and conditions of the initial financing.”

<sup>10</sup> See conclusion of section 2.1.3.1 in IFBC Report. Moreover, IFBC’s reference to a BBB- rating given by UBS in 2008 is undocumented and no longer relevant in 2009 in view of the dramatic changes in business conditions and as we look at the consolidated group (vs. Quadrant stand-alone).

<sup>11</sup> The S&P 2008 *Corporate Rating Criteria* state that “While we have no minimum size criterion for any given rating level, company size tends to be significantly correlated to rating levels. This is because larger companies often benefit from economies of scale and/or diversification, translating into a stronger competitive position.”

<sup>12</sup> IFBC’s statement in section 2.1.3.1 of their report that Quadrant’s diversified markets mitigate the cyclical nature of the sector has been contradicted by reality in 2009.

<sup>13</sup> Quadrant is the sole operating company; its cash flows support not only its own debt but also Aquamit’s. As indicated by Moody’s: “[Issuer Rating] is assigned to an issuer as if it had a single class of debt and a single consolidated legal entity structure”. Moody’s *Analytical Framework for Speculative Grade Ratings*, published in May 1999, states that: “The Senior implied rating reflects the entity’s business and financial risk as if it had a single class of debt. The specific issues are rated through a process of notching that distributes expected loss severity across the entities capital structure”. Also confirmed by S&P *Corporate Rating Criteria, Parent/*

- iv. **Financial profile:** Notwithstanding IFBC's mitigating statements<sup>14</sup>, the Group financing structure was very aggressive with 16.9x and 8.8x adjusted<sup>15</sup> Debt/ EBITDA<sup>16</sup> ratios for 2009 and 2010, respectively.
- v. The Group's business and financial profiles are summarized in Moody's ratio matrix for manufacturing companies below<sup>17</sup>. From this matrix, we conclude that the Group's actual financing structure was akin to a near distressed profile, i.e. Caa<sup>18</sup>.

Rating Drivers / Sub-Category	Weighting	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
<b>1. Business Profile<sup>18</sup></b>									
Product Diversity	30%	>6 balanced, profitable core segments	>5 balanced, profitable core segments	>4 balanced, profitable core segments	>3 core segments, varying in size or profitability	2-3 core segments, varying in size or profitability	>1 core segment, but heavy reliance on 1 segment	1 core segment	
Regional Diversity	10%	Global highly diversified: no single region accounts for more than 30% of revenue	Global highly diversified: no single region accounts for more than 40% of revenue	Global highly diversified: no single region accounts for more than 50% of revenue	Globally diversified: Main region accounts for 50-60% of revenue	Global concentration: Main region accounts for 60-70% of revenue	Global concentration: Main region accounts for 70-80% of revenue	Global concentration: Main region accounts for 80-90% of revenue	Global concentration: Main region accounts for more than 90% of revenue
<b>2. Size &amp; Profitability<sup>19</sup></b>									
Revenues (USDm)	15%	≥ 30,000	15,000 - 30,000	5,000 - 15,000	2,000 - 5,000	1,000 - 2,000	500 - 1,000	7, 210-100	< 210
EBITA/USDm - 3 year avg	10%	≥ 1,000	2,250 - 1,000	1,500 - 2,250	1,000 - 1,500	250 - 1,000	0 - 250	-100 - 0	< -100
ROAA (EBITA / Av. Assets) - 3 year avg	5%	≥ 25%	20% - 25%	15% - 20%	10% - 15%	5% - 10%	2% - 5%	0% - 2%	< 0%
<b>3. Financial Policy<sup>19</sup></b>									
Debt / Book Cap - 3 year avg	5%	< 10%	10% - 20%	20% - 35%	35% - 50%	50% - 60%	60% - 70%	70% - 80%	≥ 80%
Debt / EBITDA - 3 year avg	10%	< 0.5x	0.5x - 1.0x	1.0x - 2.0x	2.0x - 3.0x	3.0x - 4.5x	4.5x - 6.0x	6.0x - 7.5x	≥ 7.5x
<b>4. Financial Strength<sup>19</sup></b>									
EBITA/Interest Expense - 3 year avg	15%	≥ 13x	10x - 13x	7x - 10x	4x - 7x	3x - 4x	2x - 3x	1x - 2x	< 1x
FFO/Debt - 3 year avg	10%	≥ 100%	80% - 100%	50% - 80%	25% - 50%	15% - 25%	5% - 15%	0% - 5%	< 0%
RCF / Net Debt - 3 year avg	5%	≥ 60%	45% - 60%	30% - 45%	20% - 30%	10% - 20%	5% - 10%	0% - 5%	< 0%
FCF / Debt - 3 year avg	5%	≥ 40%	30% - 40%	20% - 30%	10% - 20%	5% - 10%	0% - 5%	-5% - 0%	< -5%

Retained profile (see section 2.3)

Actual Group profile

*Subsidiary Link: "Economic incentive is the most important factor on which to base judgments about the degree of linkage that exists between a parent and subsidiary."*

<sup>14</sup> See sections 2.1.3.1 and 2.1.3.2 of IFBC Report. To mitigate this aggressive financial profile classification, IFBC exclusively uses historical ratios, ignoring current trading and outlook, even though "Ratings are forward-looking and incorporate our expectations for future financial and operating performance.", *Moody's Global Manufacturing Industry Rating Methodology*, December 2010.

<sup>15</sup> Our model incorporates standard adjustments performed by rating agencies on financial statements per S&P 2008 *Corporate Rating Criteria: Ratios And Adjustments*, published April 15<sup>th</sup>, 2008 and *Moody's Approach to Global Standard Adjustments in the Analysis of Financial Statements for Non-Financial Corporations*, published September 21<sup>st</sup>, 2010. From our analysis of the footnotes to the consolidated financial statements in Quadrant's 2008 annual report, we arrive at debt adjustments worth CHF 85m per Moody's criteria. We also exclude synergies: as stated by S&P in their 2008 *Corporate Ratings Criteria* "analysts are entitled to be more skeptical about earning prospects of an acquisitive company when these rely on turnaround strategies or "synergistic" mergers." Unadjusted Debt/ EBITDA ratios are 16.2x and 6.9x in 2009 and 2010, respectively.

<sup>16</sup> EBITDA stands for earnings before interest, tax, depreciation and amortization.

<sup>17</sup> Moody's methodology focuses on four key rating drivers. The four factors are then broken down into 11 sub-factors. The highlighted cells in the table below show where Aquamit would stand according to Moody's methodology.

<sup>18</sup> The methodology clearly shows that the business risk profile (per factors "business profile" and "size & profitability" in the table below) would have been capped below investment grade which would equate to a weak or vulnerable business risk profile for S&P. The financial risk profile, per the table below, equates to a "highly leveraged" profile for S&P, leading to a CCC rating category. The matrix below yields a weighted outcome of B3 (equivalent to B- at S&P). The agencies approach would lead them, however, to skew this weighted outcome towards the worst categorization (i.e. leverage ratios in the Ca category in factor 3: "financial policy").

<sup>19</sup> Terminology: EBITA: earnings before interest, tax and amortization; ROAA: return on average assets; FFO: funds from operations; RCF: retained cash flow; FCF: free cash flow.

### 2.3. Debt capacity

- a. Fundamentally, Aquamit is not comparable to a traditional Leverage Buyout (“LBO”) in view of the time horizon, shareholder mindset or underlying operational rationale. From a financial standpoint, however, it has all the characteristics of an LBO<sup>20</sup>. Since we evaluate the financing as a third party would have, the LBO framework acts as a good proxy.
- b. MPI has argued that there is an agency advantage in structuring the capital primarily in the form of debt with a pledge<sup>21</sup>. A third party debt provider would have taken a different view, however. The maximum senior leverage tolerated under the prevailing LBO market practice<sup>22</sup> would have been 50% of total funding, possibly lower.
- c. Using a 2009 normative LBO structure as a guide (the “Restated Profile”), i.e. 50% senior debt, 40% equity and 10% mezzanine financing<sup>23</sup>, **we would analyze the Group capital structure of CHF 362m<sup>24</sup> as a combination of approximately CHF 182m of senior debt, CHF 36m of mezzanine, CHF 51m of equity and CHF 93m<sup>25</sup> of additional equity/ shareholders’ advance. As shown in Moody’s matrix above, this Restated Profile would have been rated in the B category<sup>26</sup>.**
- d. As an alternative<sup>27</sup> we can also derive the Group’s debt capacity from forecasted cash flows<sup>28</sup>.
- e. When we apply the agencies thru-the-cycle<sup>29</sup> cash flow methodology<sup>30</sup> (without synergies and on the basis of adjusted ratios) we conclude **at least CHF 76m of additional equity/ shareholders’ advance was needed to achieve a B rating<sup>31</sup>.**

<sup>20</sup> Including the structuring of senior debt at the operating company level (Quadrant) and subordinated debt at the sub-holding company level (Aquamit). For more information, see the Loan Market Association’s (“LMA”) Guide to Leveraged Finance.

<sup>21</sup> See p. 1, answer to question 1a) in letter from Mitsubishi Plastics dated May 11<sup>th</sup>, 2012: *“MPI required from the start that the financing would have to be secured by a share pledge. MPI did not consider providing the financing without such share pledge. The pledge on the shares of Quadrant was (and continues to be) important for MPI. The share pledge ensured that in the event of a default under the financing MPI can unilaterally exercise the voting rights attached to the pledged shares. Additionally, in such event MPI could sell the pledged shares to a third party or acquire such shares at their fair market value. In a 50:50 joint venture this control right may be essential.”*

<sup>22</sup> Babson Capital’s *White Paper on Middle-Market Mezzanine Debt* published in August 2010; *EVCA Buyout Report* published in October 2010; *Dalloz Finance 2012*, p. 1040.

<sup>23</sup> Per footnote 22.

<sup>24</sup> Based on PWC FO and Aquamit’s 2009 annual report. Please note that for our analysis we included the €2.78m left under the MPI bridge loan as of December 31<sup>st</sup>, 2009 into the PTO Bond.

<sup>25</sup> And, therefore, CHF 144m of total equity (CHF 51 + 93m).

<sup>26</sup> At best, this would equate to a B- rating for Aquamit, one notch lower than the Group’s consolidated rating in view of its subordination to Quadrant. See S&P guidelines for recovery analysis and notching in S&P’s 2008 *Corporate Ratings Criteria*.

<sup>27</sup> IFBC has performed this analysis and concluded the entire financing should be viewed as senior debt. We are unable to share their conclusion: 1) IFBC’s cash flow is derived from a CHF 75m EBITDA, an unsustainable hypothesis given 2009 results and outlook, 2) IFBC focuses on historical numbers and ignores current trading. Even though banks and agencies aim to take a thru-the-cycle approach, they will be influenced by immediate market conditions and their perspective is forward looking, 3) IFBC offers a number of “comparable” Swiss transactions to support its conclusions. All but one date back to 2006 and 2007, a peak era for aggressive financing and therefore irrelevant in 2009, the middle of a financial crisis, 4) we have found no evidence, including in Switzerland, to support IFBC’s undocumented affirmation that *“[...] eine Auslastung der Verschuldungskapazität von 126%, was vor dem Hintergrund der aktuellen Kreditpolitik und der gängigen Finanzierungspraxis als solide bezeichnet werden kann.”*

<sup>28</sup> Per footnote 24.

<sup>29</sup> See p. 15 of S&P’s 2008 *Corporate Rating Criteria*, which states that rating outlooks typically have a 2-year horizon for investment grade names, and 1-year for speculative grade companies, and Moody’s methodologies for cyclical industries going back 3 years (published) and 2-year forward (forecast). See also p. 28 of S&P’s 2008 *Corporate Rating Criteria*, which states: *“We attempt to avoid assigning high ratings to a company at its peak of cyclical prosperity, if that performance level is expected to be only temporary. Similarly, we may not lower*

- f. This conclusion is consistent with our Restated Profile above and also with the Founders' reluctance towards leverage<sup>32</sup>.

#### 2.4. Applicable rates

- a. Capital markets were challenging in the months leading up to May 1<sup>st</sup>, 2009. Widespread risk aversion led to lower issuance volumes, wider and more volatile spreads, particularly for risky assets such as leveraged financings<sup>33</sup>.
- b. IFBC has ignored these extraordinary and short term market conditions and volatility and used normative spreads<sup>34</sup>. For long term projections, it is both understandable and market practice. This is also the approach PWC used in its fairness opinion.
- c. To allow for comparability, we have likewise<sup>35</sup> used normative rates with LBO leveraged loan spreads<sup>36</sup>, mezzanine and equity yields of 300-500bps<sup>37</sup>, 12-15%<sup>38</sup> and 15-25%<sup>39</sup>, respectively.

*ratings to reflect weakening performance because of cyclical factors, if the downturn is likely to be only temporary or there are good prospects for management to respond to the changed circumstances [...]. We do not—and cannot—aim to rate through the cycle entirely. Rating through the cycle requires an ability to predict the cyclical pattern—usually extremely difficult to do.”*

<sup>30</sup> Leverage scenarios derived from Moody's adjusted debt/EBITDA target ratios at different rating category levels per Moody's *Rating Methodology for the Global Manufacturing Industry* detailed in section 2.2.

<sup>31</sup> Based on Moody's adjusted and thru-the-cycle approach with leverage of 3x historical adjusted 2007 EBITDA (peak of the cycle) and 5.8x forecasted adjusted 2010 EBITDA (trough of the cycle). This yields a maximum adjusted debt capacity of CHF 320m and therefore CHF 235m of on-balance sheet debt (CHF 85m adjustment as per footnote 15) and CHF 76m of additional equity (on top of the CHF 51m actual equity).

<sup>32</sup> Quadrant Press release from August 2007: *“The board is of the opinion that a highly leveraged going private would substantially jeopardize the further pursuit of the board's growth strategy dedicated to Quadrant's steady and sustainable increase in value.”*

<sup>33</sup> Per UBS presentation at the PWC Deal Symposium 2009, in Zurich, *“Die Krise aus Sicht des Fremdkapitalgebers Einblicke in den Kreditmarkt”*, Dr. Karl Spielberger, April 29<sup>th</sup>, 2009; EVCA Buyout Report, October 2010; S&P's, *A Guide To The European Loan Market*, January 2010.

<sup>34</sup> See p. 29 of IFBC Report.

<sup>35</sup> However, unlike IFBC (historical average) we have acknowledged the new environment prevailing after the collapse of Lehman Brothers in 2008.

<sup>36</sup> Coherent with the B rating of our Restated Profile discussion in section 2.3. since, historically, the majority of the S&P European Leveraged Loan Index was rated in the B category (European High Yield Association, *“European Quarterly High Yield and Leveraged Loan Report”*, first quarter 2009).

<sup>37</sup> UBS presentation, April 29<sup>th</sup>, 2009 (see footnote 33); *Dalloz Finance 2012*, p. 1040; EVCA Buyout Report, October 2010 and Babson Capital's *White Paper on Middle-Market Mezzanine Debt* published in August 2010.

<sup>38</sup> Babson Capital's *White Paper on Middle-Market Mezzanine Debt*, August 2010.

<sup>39</sup> Whilst it is market convention that private equity firms expect 20 to 25% internal rate of returns (IRRs) on their equity investment (see Babson Capital's *White Paper on Middle-Market Mezzanine Debt*, August 2010), long-term performance is somewhat lower with medium buyouts performance recording a 16.7% IRR on a 20-year horizon as of December 2008 (as per EIF's report entitled *The Private Equity Market in Europe. Rise of a new cycle or tail of the recession?*). Furthermore, given the larger relative equity investment now required, lower returns in the range of 15% would probably become the norm (according to *Private Equity Insights* from Duff & Phelps published in July 2009, the new buyout return expectations were now in the vicinity of 15%).

The termsheet for the Restated Profile described in section 2.3. would therefore have been as follows:

	Senior debt	Mezzanine	Additional equity/ shareholders' advance
Amount	CHF 182 million <sup>40</sup>	CHF 36 to 53 million	CHF 76 to 93 million <sup>41</sup>
Normative rates	6.7% (PWC risk-free rate <sup>42</sup> + 400 bps (mid-range))	13.5% (mid-range)	20.0% (mid-range)

- d. In view of the above, the applicable blended market rate for the Group's debt financing would have been 7.8 to 8.2%<sup>43</sup> vs. the actual MPI Group rate of 3.8%<sup>44</sup>.
- e. The *Bundesverwaltungsgericht* has acknowledged the need to take agency costs into account<sup>45</sup>. The agency question goes beyond financing. We have therefore addressed this subject separately (see section 5) and not taken any deduction for our funding advantage evaluation.

## 2.5. Valuation of the funding advantage

- a. To evaluate the MPI financing advantage to the Founders, we need to compute the 15-year net present value ("NPV") of the above rate differential. The extended PWC business plan is the basis for this analysis with two modelling alternatives: with and without amortization<sup>46</sup>.
- b. The longer the time horizon, the more difficult it is to construct a realistic business plan. For simplification purposes PWC has, for instance, ignored special investment projects and external growth. As a result, and in view of Quadrant's profitability, cash is generated over time. The fact that the cash would be either upstreamed and amortized or, instead, accumulated does not change the outcome: over time, on a consolidated level, debt reduces, equity increases and the credit profile improves. Apart from the cost of negative carry<sup>47</sup>, the two amortization scenarios (with and without) are therefore substantially equivalent.
- c. We privilege the amortization alternative, since it allows to model properly the mechanical gradual credit improvement and correlated rate decrease as debt declines over time<sup>48</sup>.

<sup>40</sup> See section 2.3.c. This is in line with LBO market practice for senior and total debt leverage ratios indicated in the UBS presentation, "Die Krise aus Sicht des Fremdkapitalgebers Einblicke in den Kreditmarkt", Dr. Karl Spielberger, April 29<sup>th</sup>, 2009 and S&P's report, *A Guide To The European Loan Market*, January 2010. The amount of senior debt remains constant, unlike mezzanine which is adjusted according to the equity amount.

<sup>41</sup> Range per section 2.3.c (CHF 93m) and 2.3.e. (CHF 76m).

<sup>42</sup> 2.67%, see p. 13 of PWC FO.

<sup>43</sup> Weighted average debt rate: (CHF 182m senior debt at 6.7% + CHF 36 to 53m of mezzanine at 13.5%) divided by CHF 218 to 235m (total senior debt + mezzanine)). The after tax debt cost is 5.5/ 5.8% when applying a 25.5% tax shield on the debt at the Aquamit level (the level applicable in 2009 in the Netherlands according to KPMG, Spigthoff litigators & tax advisors and Tax Consultants International B.V.) and 33% at Quadrant level (for comparability purposes, we used the tax rate of the PWC FO there).

<sup>44</sup> Weighted average rate consists of: i) 2.67% risk-free rate (per PWC) + 50 bps on Aquamit PTO bonds (CHF 209m) and ii) 2.67% risk free rate + average spread of 250 bps on Quadrant refinancing bonds (CHF 102m net debt).

<sup>45</sup> See Section 8.6.3 of Court Ruling. IFBC has estimated an unsubstantiated 30 to 50 bps discount to account for agency cost reduction.

<sup>46</sup> The various contracts offer no clear guidance on PTO debt amortization: early amortization is neither mentioned nor forbidden. As a result, IFBC offers two modeling alternatives: with and without amortization. The amortization scenario is contested by PPCmetrics, which argues that, *inter alia*, the Founders had no incentive to amortize.

<sup>47</sup> Differences between interest paid on debt and interest earned on cash. The rating agencies would also not give full credit to available cash as the agency risk increases with the amount of cash accumulating.

<sup>48</sup> In order to give full credit to this improving credit profile, we have modeled our Restated Profile by amortizing the most expensive capital first (additional equity/ shareholder loan, then mezzanine and finally senior debt). If we were to do otherwise, the cost of capital would increase over time which would contradict the reality of an improving credit. We could have likewise replicated the gradual credit improvement with a non-amortization model (by evaluating rating and corresponding spread for each of the 15 years) but this would have been unnecessarily cumbersome and, more importantly, subjective and less transparent.

Amortizing across the entire debt structure over 15 years, we calculate an NPV advantage for the PTO Bond of CHF 80.5 to 96.4m<sup>49</sup>, equivalent to a **CHF 40.2 to 48.2m gross financial advantage benefit to the Founders<sup>50</sup> for their 50% ownership.**

- d. The Restated Profile is the underlying hypothesis of the above range. Yet, had a private equity fund bid for Quadrant in May 2009 with a similar capital structure, their highest theoretical price<sup>51</sup> would have been CHF 44 to 49 per share<sup>52</sup>, not the CHF 86 actually offered. This asymmetrical outcome illustrates that the MPI subsidy was not only to the advantage of the Founders, but it also enabled Aquamit to finance *ceteris paribus* a higher purchase price, for the benefit of all shareholders.
- e. Aside from this theoretical case, there is tangible evidence that MPI's financing helped boost the PTO price: Quadrant was about to breach its financial covenants. Refinancing was required, yet uncertain<sup>53</sup>. The justifiable price per share for Quadrant when taking its true financial condition into account was approximately CHF 11 per share lower<sup>54</sup> than the CHF 86 offered, which would translate into CHF 24.7m lower consideration for the publicly-held shares<sup>55</sup>.
- f. To be consistent, we should acknowledge that while the Founders benefited from the subsidized financing, they "funded" 50%, as a joint bidding party, of the CHF 24.7m price differential enabled by that very same financing. We should, therefore, at the very least<sup>56</sup> subtract, as "*Gegenleistung*", from our value range of CHF 40.2 to 48.2m one half of the CHF 24.7m differential effectively paid out to minority shareholders.

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<sup>49</sup> We have extended the PWC business plan to 2024 to determine annual free cash flows available to Aquamit under the actual Group profile and the Restated Profile (per section 2.3.c and 2.3.e). On this basis, we calculated a "financing" NPV for the Restated Profile taking into account all financial flows: interest on senior debt and mezzanine (after-tax), running cost of the additional equity and debt repayments. Discounted at the PWC WACC, this yields a "financing" NPV for the Restated Profile of CHF 220.6 to 243.2m. Similarly, we calculated the "financing" NPV for the actual Group profile taking into account all financial flows: interest on the PTO bond (no tax shield given the Dutch thin capitalization rules, per Spigthoff litigators & tax advisors and Tax Consultants International B.V.) and debt repayments. Discounted at the PWC WACC, this yields a "financing" NPV of CHF 140.1 to 146.8 million. The range of CHF 80.5 to 96.4m is the difference between the NPVs of the two scenarios.

<sup>50</sup> Compared to a range of zero to CHF 8.7m per IFBC's analysis, based on optimistic assumptions about credit rating, capital structure and rates already commented upon; and CHF 60 to 82m per PPCmetrics' analysis, boosted partly through short term peak rate assumptions and principally through the omissions, inter alia, of cash accumulation over the period (CHF 177m in our calculation of the Restated Profile) and related interest income.

<sup>51</sup> Applying our Restated Profile's rates and capital structure (per section 2.3.c and 2.4.c) to PWC FO valuation model.

<sup>52</sup> Incidentally, CHF 44 to 49 is in line with analysts' (e.g. Berenberg, Deutsche Bank) target price for Quadrant in early 2009 before the offer from Aquamit.

<sup>53</sup> Neither fact is mentioned in the PWC FO. By using a normative capital structure and spread, PWC implicitly took the refinancing of Quadrant for granted, even though the Founders doubted it was feasible. See Quadrant's quarterly report as at March 31<sup>st</sup>, 2009 and Dr. Adrian Niggli's interview in Finanz & Wirtschaft on June 24<sup>th</sup>, 2009 (the "Interview"): "*Es wäre heute hierzulande nicht einfach, ein solches Kreditvolumen neu auszuhandeln, und falls es gelänge, wären die Konditionen wahrscheinlich bedeutend schlechter [...] mindestens doppelt so teuer.*"

<sup>54</sup> Everything else being equal, applying the blended 7.8% cost of debt of our Restated Profile to the PWC FO valuation model. This is a minimum, because Dr. Niggli estimated a higher refinancing cost (at least 9.2% per footnote 53). Everything else being equal, applying this rate to the PWC FO valuation model would yield a CHF 68 value per share.

<sup>55</sup> Shares held by minority shareholders, excluding treasury shares.

<sup>56</sup> One could argue we should take the full difference between the public takeover offer price of CHF 86 and the Restated Profile price of CHF 44 to 49 for our calculation. We do not believe this would be a valid scenario since, rationally, the Board would have rejected an offer for Quadrant below the fair value post refinancing.

- g. On the basis of the above, we assign a CHF 27.9 to 35.9m net financing advantage benefit to the Founders.

### 3. Management know-how, experience (and lock-up)

#### 3.1 Context and lock-up

- a. The five year lock-up and balanced joint venture governance<sup>57</sup> are among the many indications which demonstrate the value of the Founders to MPI<sup>58</sup>.
- b. We agree with IFBC that the Founders' five-year lock-up should not be valued as a separate benefit, but instead viewed as a necessary associated condition.
- c. The debate before the *Bundesverwaltungsgericht* was not about the Founders' know-how and experience<sup>59</sup>, but about valuing the associated benefit<sup>60</sup>.

#### 3.2 Synergies valuation approach

- a. The IFBC approach is to assess this benefit as the "acceleration" of potential synergies. We understand their logic, calculation and some of their assumptions<sup>61</sup>. Indeed, and as is natural for such joint ventures<sup>62</sup>, the parties expected significant synergies from the transaction<sup>63</sup>. So did the financial community<sup>64</sup>. It seems that those expectations have materialized<sup>65</sup>.
- b. However, IFBC's methodology is problematic for the following reasons:
  - i. The only *ex-ante* document addressing anticipated synergies<sup>66</sup> is neither detailed nor substantiated. IFBC's assumptions are constructed on the basis of statements and figures produced after the fact, and by the defendants in the context of a legal dispute.
  - ii. Synergies in a joint venture are, by definition, the result of a combined effort. As illustrated by PPCmetrics' critical review of IFBC's attempts<sup>67</sup>, an objective and transparent allocation

<sup>57</sup> See Joint Venture Agreement and the Framework Agreement, both dated May 1<sup>st</sup>, 2009.

<sup>58</sup> See also MPI letter dated January 29<sup>th</sup>, 2009: "You and the key management team of Quadrant (i.e., Messrs. Müller and Schenk) will continue to manage Quadrant and invest into the joint venture in order to jointly develop and implement the strategy of Quadrant's business activities with MPI."

<sup>59</sup> The *Bundesverwaltungsgericht* has stated that the Founders should be considered as a group; see p. 67 of Court Ruling.

<sup>60</sup> See Section 10 of Court Ruling.

<sup>61</sup> See section 3 of IFBC Report.

<sup>62</sup> See p. 15 of PPCmetrics report dated February 25<sup>th</sup>, 2011: "Es ist jedoch immer so, dass bei Joint-Ventures oder Fusionen die erwarteten Synergieeffekte einen positiven Aspekt und einen wesentlichen Grund für das geplante Zusammengehen darstellen." See also p. 71 of Johnson, S.A.; Houston, M.B., *A Reexamination of Motives and Gains in Joint Ventures* (2000): "They find positive mean excess returns for joint venture partners, which is consistent with synergy [...]."

<sup>63</sup> See p. 20 of the 2009 offer document by Aquamit B.V.: "Die Vorteile eines derartigen Zusammenschlusses sind eindeutig". See also the Interview: "Und es gibt auch keinen Zweifel, dass Mitsubishi Plastics für Quadrant der bestmögliche strategische Partner ist."

<sup>64</sup> See, for example, analyst reports by NikkoCiti dated June 2<sup>nd</sup>, 2009; and Barclays Capital dated June 3<sup>rd</sup>, 2009. See also *Finanz und Wirtschaft* dated June 6<sup>th</sup>, 2009: "Industriell ist die Fusion sinnvoll. Die beiden Unternehmen kooperieren seit Jahren in Japan, die Geschäfte überlappen sich nicht und Quadrant wäre stärker in den asiatischen Wachstumsmärkten präsent."

<sup>65</sup> See p. 3 of Lenz & Staehelin letter dated March 19<sup>th</sup>, 2012: "Die von IFBC in ihrer Bewertung vom 11. Februar 2011 (UEK-act. 156/2) geschätzten Synergiegewinne [...] wurden seit Abschluss des Übernahmeangebots tatsächlich erreicht und währungsbereinigt sogar deutlich übertroffen."

<sup>66</sup> See IFBC's *Interne Synergiebewertung von Mitsubishi Plastics* and p. 2 of Lenz & Staehelin letter dated March 19<sup>th</sup>, 2012: "Weitere Dokumente, insbesondere ein Business Plan, welcher die damals zu erwartenden Synergien dargestellt hätte, gibt es nicht."

<sup>67</sup> See section 3 of PPCmetrics Report and pp. 19-20 of Baker McKenzie letter dated February 25<sup>th</sup>, 2011.

- between the various parties (i.e. Founders vs. MPI, or Founders vs. the rest of their management team) is illusory.
- iii. Isolating the *ceteris paribus* Founders' "Nebenleistung" is equally difficult. The analogy would be to perform clinical studies without a control group<sup>68</sup>.
  - c. In view of the above, we conclude that the synergies approach does not allow for a transparent, objective valuation.

### 3.3 Market valuation approach

- a. Outside of the Aquamit case, various bodies are routinely confronted with valuations of management know-how and experience: boards, remuneration committees, HR managers, remuneration consultants, etc. Most of them will rely on market benchmarks to guide their evaluations<sup>69</sup>. This "market" approach (i.e. what companies pay management is a minimum proxy for what it is worth to them)<sup>70</sup> is **both objective and measurable** and therefore well suited to evaluate the benefit associated with the management know-how and experience of the Founders<sup>71</sup>.
- b. As rightly pointed out by Sarasin, the Founders continue to be remunerated as managers. Yet, they no longer benefit from the typical long term ("LT") incentive plan associated with their function, although it had been an essential part of their compensation package historically<sup>72</sup>. We should, therefore, **exclusively investigate the LT incentives** part of their compensation<sup>73</sup>.
- c. In this case, the easiest and most relevant valuation method for a "virtual" LT incentive plan is the Founders' historical stock options plan. From 1996 to 2008, the Founders collectively

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<sup>68</sup> This raises several questions. For instance: how much better or worse would another management team have performed? Are other variables, such as market conditions, not more relevant to account for the size and speed of synergies? What part of the Founders' performance is already covered by their salaries at Quadrant or implicitly by the control premium?

<sup>69</sup> See p. 1 of Bizjak, J.; Lemmon, M.; Nguyen, T., *Are All CEOs Above Average? An Empirical Analysis of Compensation Peer Groups and Pay Design*. (2009): "When shareholders question lush pay, they are invariably met with a laundry list of reasons that businesses use to justify such packages. Among that data, no item is more crucial than the "peer group", a collection of companies that corporations measure themselves against when calculating compensation."; "[...] for many firms one of the driving factors in setting both levels of pay and pay structure is the use of comparison or peer groups." See also p. 26 of Holmstrom, B.; Kaplan, S. N., *The State of U.S. Corporate Governance: What's Right and What's Wrong?* (2003): "[...] it is hard to see how pay levels can be set in a fair and efficient way without benchmarking."

<sup>70</sup> Consistent with the rational expectations postulate (the willingness to pay ("WTP") being one of the tenets of economic theory).

<sup>71</sup> See Section 5.3 of Court Ruling: "Zu ermitteln ist somit der Preis, den der Leistungserbringer von einem anderen Marktteilnehmer in der Situation des Leistungsempfängers oder auf dem freien Markt für diese Leistung erhalten könnte." See also Section 10.5 of Court Ruling: "Massgeblich ist jedoch auch in Bezug auf diese Leistung nicht die Bewertung aus der Perspektive des Leistungserbringers, sondern der objektive Wert, d.h. der Wert der Leistung aus der generalisierten Perspektive von Mitsubishi Plastics oder einem (hypothetischen) anderen Übernehmer von Quadrant, dem das landes-, branchen- oder unternehmenstypische Know-how im Übernahmzeitpunkt noch abgeht. Auch ein anderer Übernehmer in dieser Situation könnte ein Interesse an der Beibehaltung des bisherigen Managements einer Zielgesellschaft haben. Dieses Interesse ist auch bewertbar und als Nebenleistung des Managements anzurechnen."

<sup>72</sup> See Exhibit 11 *Optionsemissionen unter dem QSOP* to Bär & Karrer letter dated March 19<sup>th</sup>, 2012; Exhibit 31 *Übersicht Kapitalgewinne der Founders für die Jahre 1996-2008 aus dem Quadrant Board Stock Option Plan* to Bär & Karrer letter dated May 14<sup>th</sup>, 2012; and answers to question 2b) and c) in Bär & Karrer letter dated May 14<sup>th</sup>, 2012, where the historical compensation of the Founders is summarized.

<sup>73</sup> In line with market practice, our analysis should be independent of the Founders' respective shareholdings. Somewhat counter intuitively, there is little correlation between shareholding size and incentive: see Baker, G. P.; Jensen, M.C.; Murphy, K.J., *Compensation and Incentives: Practice vs. Theory* (1988), who show that the estimated pay/ performance relation is independent of the level of stock ownership – board of directors systematically ignore CEO stock ownership when structuring incentive compensation plans.

received 1,053,502 options with average capital gains of CHF 3.2m per year<sup>74</sup>. Projecting similar amounts over 5 (i.e. end of lock-up period) to 15-year period, would translate into a discounted value for the “virtual” LT incentive package of CHF 13.1 to 29.2m<sup>75</sup> and, therefore, into a minimum benefit to MPI of CHF 6.6 to 14.6m (50% share).

- d. For comparison purposes, we have investigated LT incentives of management packages in the MBO market<sup>76</sup>. The resulting CHF 9.7 to 12.4m value range for MPI’s 50% is consistent with the above results<sup>77</sup>.
- e. **On the basis of the above, we assign a value to the management know-how and experience benefit of CHF 6.6 to 14.6m.**

#### 4. Consolidation

- a. Aquamit and IFBC have argued that consolidation is a “Nebenleistung” that should be evaluated<sup>78</sup>.
- b. There is evidence that consolidation was important to MPI and MPI’s auditors have confirmed that the financing allowed for full consolidation of Aquamit/ Quadrant<sup>79</sup>.
- c. IFBC and PPCmetrics have acknowledged that full consolidation has no effect on the actual equity and net results of Mitsubishi Chemical Holdings Corporation (“MCH”)<sup>80</sup>. Yet, IFBC contends that it may have cosmetic advantages. We agree, but find it difficult to associate it with a material economic benefit:
  - i. Rating agencies will adjust their analysis on the basis of true economic interest<sup>81</sup>, independently of consolidation effects.
  - ii. Equity analysts may sometimes be influenced by the visually higher consolidated numbers. In this particular case, however, we have not found evidence of such bias<sup>82</sup>.

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<sup>74</sup> The capital gain is stated as at May 1<sup>st</sup>, 2009, computed by inflating individual capital gains from the date of their realization at the annual normalized 1.25% inflation rate used by PWC.

<sup>75</sup> Incentives are assumed to be awarded annually, increased at PWC’s normalized inflation rate and discounted to May 1<sup>st</sup>, 2009 using PWC’s Quadrant WACC of 8.25%.

<sup>76</sup> While there are many different LBO management incentive schemes (sweet equity, warrants, etc.), we have analyzed mid-sized LBOs and exchanged with several financial sponsors to conclude that typically senior management as a group may receive 8-15% (sometimes more) of the equity value at exit, provided minimal IRR targets have been achieved. This share incentive comes in addition to salaries, bonuses and to capital gains related to managers’ own investments. We have applied a 11.5% share (mid-point between 8 and 15%) to Aquamit’s fair value calculated at various assumed exit years (for each year up to 2024, but not during the initial lock-up period). Fair exit values each year equal Aquamit’s prior (to exit) year consolidated EBITDA derived from the extended PWC business plan, multiplied by normative exit multiples ranging from 6-10x (based on European mid-market acquisition EV/ EBITDA multiples in the period from 1999-2010 as published by Standard & Poors), less Aquamit’s end of prior year consolidated net debt. Those exit value are then discounted back to May 1<sup>st</sup>, 2009 using PWC’s WACC of 8.25%. The resulting value range for this virtual LBO LT incentive package is CHF 19.5 to 24.8m (therefore, CHF 9.7 to 12.4m for 50%).

<sup>77</sup> We have also analyzed as comparison the LT incentive management packages of publicly listed companies and in particular Swiss companies (study by Ethos, Swiss Foundation for Sustainable Development, 2010). Unfortunately, those studies have limited value for our evaluation as they record LT incentives at the time of award (with no distinction for vesting periods, maturity, strike, etc.) and therefore do not capture the share appreciation potential which can be substantial.

<sup>78</sup> See section 4 of IFBC Report.

<sup>79</sup> See MPI letter dated March 16<sup>th</sup>, 2012.

<sup>80</sup> See p. 31 of PPCmetrics Report: “Wir sind mit den Gutachtern von IFBC einig, dass die Art und Weise der Konsolidierung keinen Einfluss auf den tatsächlichen Eigenkapital- und Gewinnausweis haben.”

<sup>81</sup> Per Standard & Poor’s *Encyclopedia Of Analytical Adjustments For Corporate Entities* (2007).

<sup>82</sup> Many analysts covering MCH in 2009 seem to have privileged P/E centric valuation methods which are not affected by the consolidation effect. See, for example Deutsche Bank dated July 6<sup>th</sup>, 2011: “The stock looks significantly undervalued at FY3/13E P/E under 8x.”; JPMorgan dated August 2<sup>nd</sup>, 2011: “We base our target on

- iii. Benefits associated to *ex-post* objectives, such as the MPI 2010 mid-term plan<sup>83</sup> do not qualify for our analysis.
- d. In any event, the value of this benefit to MPI is irrelevant: consolidation was made possible by MPI for its own benefit. We find no rationale crediting the Founders with this benefit<sup>84</sup>. **We therefore assign no value to this consolidation benefit.**
- e. IFBC asserts, however, that the Founders should be given credit for their **50% share of additional reporting costs**<sup>85</sup>.
- f. The numbers have been provided after the fact, by Quadrant, a defending party. This raises several objectivity issues:
  - i. Quadrant includes the cost of implementing Sarbanes-Oxley (“SOX”). This would imply that SOX has no value to Aquamit or the Founders, an hypothesis which contradicts market practice, academic findings<sup>86</sup> and IFBC’s own assessment<sup>87</sup>.
  - ii. Most costs are *ex-post* management accounting allocations of existing costs vs. additional cash expenses.
  - iii. Even if Quadrant thinks otherwise, common sense would say that most additional reporting costs listed, in particular management site visits and presentations<sup>88</sup>, would belong to the normal costs associated with launching and running a joint venture<sup>89</sup>.
- g. More importantly, by facilitating communication and control, the new reporting is one of the necessary conditions for MPI’s agency cost reduction. As such, it should be evaluated in conjunction with the agency cost benefit addressed in the next section. To avoid double counting, **we therefore assign no separate value to this reporting cost benefit.**

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a P/E of 9x our FY2012 EPS estimate.”; Credit Suisse dated March 3<sup>rd</sup>, 2010: “We switch our valuation methodology to P/E from P/B”; and MF Global dated August 22<sup>nd</sup>, 2011: “We maintain our target price at ¥780, based on a FY3/12E PER of 10.8x.”

<sup>83</sup> See MPI letter dated March 16<sup>th</sup>, 2012.

<sup>84</sup> A spurious argument would be that we should recognize a value for the Founders’ “consent” to the financing. This would imply that the Founders had a choice which contradicts their own assessment about their ability to refinance Quadrant, let alone to finance the takeover (see the Interview: “Es wäre heute hierzulande nicht einfach, ein solches Kreditvolumen neu auszuhandeln, und falls es gelänge, wären die Konditionen wahrscheinlich bedeutend schlechter als die gegenwärtigen.”).

<sup>85</sup> See pp. 49-50 of IFBC Report: “[...] der mögliche Wertvorteil mindestens den im Zusammenhang mit der Vollkonsolidierung entstehenden zusätzlichen Kosten entsprechen muss. [...] Die zusätzlichen Kosten entstehen vor allem durch Reporting-Anforderungen von Mitsubishi Plastics, die aufgrund der Vollkonsolidierung verbindlich fixiert sind. [...] Von den Gesamtkosten tragen die Founders 50%.”

<sup>86</sup> See p. vii of Rittenberg, L. E.; Miller P. K., *Sarbanes-Oxley Section 404 work: looking at the benefits* (2005): “[...] there are significant benefits associated with the control identification, documentation, and testing process” of SOX; p. 1 of Wagner, S.; Dittmar, L., “The unexpected benefits of Sarbanes-Oxley” (2006): “A few smart companies have stopped complaining about Sarbanes-Oxley, the investor-protection law, and turned it to their advantage – bringing operations under better control while driving down compliance costs.”; p. 36 of Nakano, Y. et al., *Present, Past and Future of Internal Control: A Survey of J-SOX Compliance* (2009): “Meanwhile, there are benefits from the implementation of J-SOX, the biggest of which is the fact that it now allows corporations to make efforts to strengthen internal control in a consistent manner.”

<sup>87</sup> See footnote 90 of IFBC Report: “Sinn und Zweck der Richtlinien sind Transparenz und bessere Kontrolle.”

<sup>88</sup> See Erläuterungen zu IFBC Tabelle Anhang B11 (IFBC, Zürich 11. Februar 2011) in response to KPMG’s question 17 of April 1<sup>st</sup>, 2011.

<sup>89</sup> As Sarasin would argue on p. 23 of Baker & McKenzie letter dated February 25<sup>th</sup>, 2011: “Integrationskosten [...] sind einfach Voraussetzung bzw. Konsequenz aus der Integration und mit den angestrebten Synergien so verknüpft, dass keine separate Rechnung dafür aufgemacht werden kann.”

## 5. Warranties, pledge & agency costs<sup>90</sup>

- a. Legal takeover doctrine clearly recognizes warranties as a “Nebenleistung”<sup>91</sup>.
- b. The warranties given were, in this case, limited in size (CHF 1.65m), duration (18 months), nature (“best knowledge” standard) and scope.
- c. IFBC has estimated a probability-weighted benefit associated with these guarantees. The method is understandable, even though it raises two difficulties: 1) assessing objectively claim probabilities, and 2) isolating guarantees not otherwise covered by normal fiduciary duties and/ or board liability insurance.
- d. Our main objection, however, is that it focuses on potential cost to the Founders vs. benefit to MPI.
- e. If we shift our focus instead to MPI’s benefit, the purpose of a warranty for MPI would not be so much to recoup up to CHF 1.65m, but to ensure that the warranty is onerous enough for the Founders so that there is little chance of a claim arising in the first place. When assessing transaction risk, those Founder warranties thus provide comforting signals to MPI<sup>92</sup>.
- f. As such, these warranties are part of a wider risk mitigation benefit<sup>93</sup>. The Founders have indeed materially reduced MPI’s risk by consenting to be locked into the transaction with its various features: 1) taking the company private<sup>94</sup>, 2) the association of the Founders to the upside<sup>95</sup>, 3) the structuring as debt secured by a pledge<sup>96</sup>, 4) the lock-up of part of the Founders’ net worth, 5) the warranties, 6) the introduction of MPI reporting, etc. are a complete web of measures which ensured minimal agency costs and maximum management alignment<sup>97 98</sup>.

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<sup>90</sup> See Jensen, M.C.; Meckling, W., *Theory of the Firm – Managerial Behavior, Agency Cost and Ownership Structure* (1956).

<sup>91</sup> See Section 11.1 of Court Ruling: “Gewährleistungen und Garantien dürfen grundsätzlich als Nebenleistungen berücksichtigt werden.”

<sup>92</sup> See p. 18 of King, *Die Bilanzgarantie beim Unternehmenskauf* (2010): “Bei einem Verkäufer, der nicht bereit ist, eine Bilanzgarantie (in der gewünschten Form) abzugeben, wohl vom Schlimmsten auszugeben ist. Denn ein Verkäufer, der nichts zu befürchten hätte, würde die gewünschte Bilanzgarantie geben, um dadurch einen entsprechenden Kaufpreisabschlag zu vermeiden.”; “Anders als von manchen Juristen vermutet, zeigen sowohl die theoretischen, als auch die experimentellen Ergebnisse, dass die Marktsignalisierung - im Gegensatz zur rechtlichen Wirkung - meist die wichtigste Funktion der Garantie ist.”

<sup>93</sup> See p. 477 of Müller, *Bilanzgarantien in Unternehmenskaufverträgen – Vertragsklauseln im Spannungsfeld zwischen Compliance und Substanzausgleich* (2009): “Die Bilanzgarantie bezieht sich im wesentlichen auf den Inhalt von Abschlussangaben der Vergangenheit und das Verfahren ihrer Erstellung. Die Verfahrens- und Inhaltssicherung schafft für den Käufer eine erhöhte Sicherheit hinsichtlich der Grundlagen der Unternehmensbewertung nach Ertragswert.”

<sup>94</sup> See p. 26 of Coates, J.C.; Subramanian, G. *A Buy-Side Model of Lockups: Theory and Evidence* (2000): “Private companies can be expected to have lower agency costs of management, on average, than public companies.”

<sup>95</sup> See p. 1215 of Walker, *Executive Pay Lessons from Private Equity* (1991): “During their period of ownership, private equity funds seek to increase portfolio company value through enhancing management incentives”.

<sup>96</sup> See p. 6 of de La Bruslerie, H., *Ownership Structure, Debt, and Private Benefits in Controlled Firms* (2011): “Jensen (1986) first identified the disciplinary role of debt within the traditional managers-shareholders agency conflict. The debt contract is identified as the safest security that, under any circumstances (i.e., independently of corporate laws protecting equity holders), imposes limits on the behavior of the firm.”. See also p. 6 of Lenz & Staehelin letter dated July 1<sup>st</sup>, 2009: “Neben der Vollkonsolidierung sieht Mitsubishi Plastics in ihrer Finanzierungsleistung den Vorteil, dass sie dadurch (insbesondere durch die damit verbundenen Pfandrechte an den von der Anbieterin gehaltenen Aktien der Zielgesellschaft) zusätzlichen Leverage gegenüber dem Management erlangt. Insbesondere im Falle von finanziellen Schwierigkeiten der Anbieterin hätte Mitsubishi Plastics die Möglichkeit, über die Finanzierung die Kontrolle über die Anbieterin und die Zielgesellschaft zu erlangen.”

<sup>97</sup> See p. 73 of Robbie, K.; Thompson, S.; Wright, M., *Managerial Buyouts, Incentives And Performance* (1991): “It is suggested that the MBO structure typically incorporates [...] monitoring arrangements, which raise the operating efficiency of bought-out companies [...]”

- g. This explains how MPI could get comfortable with limited due diligence<sup>99</sup>, light covenants<sup>100</sup> and tight spreads, as if Aquamit was a fully integrated subsidiary and the Founders part of MPI's management team.
- h. In the absence of widely accepted (or even practicable) agency cost evaluation methodologies<sup>101</sup>, the straightforward way to value this benefit would be to consider that MPI was able to purchase its interest in Quadrant on the basis of its own discount rate, or at least at the normative WACC of a third party, rather than the PWC discount rate applicable to minority shareholders (through the CHF 86 per share offered). This calculation<sup>102</sup> yields a maximum risk mitigation value for MPI of CHF 43 to 159m.
- i. This range does overestimate MPI's benefit, however: as rightly pointed out by PPCmetrics, MPI does not have full operational control and there could be diverging interests arising from the asymmetrical risks/rewards between the Founders and MPI. We should, accordingly, adjust our results to take into account residual agency costs.
- j. In the absence of objective methods to measure the precise level of "risk mitigation", we focus, instead, on assessing its minimum value. In view of the evidence listed in f., risk mitigation cannot plausibly be labeled as "low". In our best judgment, therefore, risk mitigation should be at least 40%, but certainly not less than 25%<sup>103</sup> of its maximum amount of CHF 43 to 159m as per section 5.h.

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<sup>98</sup> See p. 27 of Braun, M. R., *The Governance of Reverse Leveraged Buyouts* (2006): "From an agency-theoretic perspective, the LBO represents an organizational structure that reduces agency costs by increasing management's ownership stake in the firm. By restructuring the principal-agent relationship, the LBO aligns managers' interests to be more congruent with the goals of shareholders"; "Managers' sizeable ownership ensures that they become less diversified in their own personal wealth and human capital (Hoskisson & Turk 1990; Hill, Hitt & Hoskisson 1988), thus motivating them to efficiently allocate firm resources towards maximizing shareholder (i.e., their own) wealth."

<sup>99</sup> See p. 10 of Bär & Karrer letter dated March 19<sup>th</sup>, 2012: "Der Joint Venture-Partner MPI der Founders führte nur eine absolut high-level Due Diligence durch. Dieses Vorgehen ist angesichts der Tatsache, dass sich die Founders zur Hälfte an der Übernahmegesellschaft Aquamit beteiligt haben, verständlich. Denn die Founders würden aus Sicht von MPI nicht bereit sein, weiterhin das Unternehmerrisiko zu tragen, würde die Quadrant versteckte, nicht offengelegte Geschäftsrisiken bergen. Die Beteiligung der Founders an Aquamit bedeutete für MPI Folgendes: Einerseits konnten Kosten für eine umfangreiche und detaillierte Due Diligence gespart werden und andererseits verminderte sich das Risiko einer Fehlübernahme respektive der Übernahme einer Gesellschaft mit verstecktem Risiko. Diese beiden Nebenleistungen der Founders zugunsten des Joint Venture-Partners MPI können bewertet werden." In contrast, the LMA's *Guide to Syndicated Leverage Finance* states that "Leveraged finance transactions involve a high degree of due diligence by Vendors, Sponsors and potential lenders."

<sup>100</sup> The LMA's *Guide to Syndicated Leverage Finance* states that "Control of cash is vitally important in leveraged transactions and various clauses in the senior syndicated facility agreement provide lenders with protection". In its response to our questions dated March 16<sup>th</sup>, 2012, MPI itself states that "[...] in light of MPI's 50% participation in Aquamit, MPI, as lender, does not suffer from a lack of information (agency problem) which would have required more extensive covenants."

<sup>101</sup> See IFBC Report. After having extensively reviewed the academic agency cost literature, we have not found any basis to contradict IFBC's conclusion.

<sup>102</sup> Since MPI is non-listed, MCH acts as a good proxy to calculate a MPI WACC. Using PWC's methodology, we compute a WACC of c.5.1% for MCH. The alternative is to use a normative WACC of a third party buyer. The most objective way would be to take out the size discount from PWC's WACC calculation of Quadrant (the plausible hypothesis being that a third party would be a large cap buyer) resulting in a WACC of c.7%. Applying this 5.1-7% WACC to PWC's Quadrant valuation would yield an equity value of CHF 309.4 to 541.7m or a value differential (relative to the equity value of Quadrant implied by CHF 86 per share) of CHF 86.6 to 318.9m (CHF 43.3 to 159.5m benefit for the 50% held by MPI), with the lower and upper value of the range resulting from a WACC of c.7% and c.5.1%, respectively.

<sup>103</sup> Semantics academic studies tend to equate verbal intensity labels of "low", "mild", "little", and "slight" with percentages between 25 and 40%. See, for instance, the conclusion of Rohrmann's *survey in verbal qualifiers for rating scales: Sociolinguistic considerations and psychometric data* (2007) which scales (on a 1-10 point

- k. In view of the above, we assign a minimum CHF 10.8m<sup>104</sup> value to the warranties, pledge and agency cost benefit.

## 6. Right-of-first-refusal

- a. The Aquamit joint venture is a balanced 50/50 equilibrium between the Founders and MPI.
- b. The exit clause makes no exception, as the right-of-first-refusal ("ROFR") is contractually symmetrical.
- c. And yet, economically, the ROFR is not symmetrical<sup>105</sup>:
  - i. The time horizon and financial capacity differ (mortal individuals vs. corporate giant).
  - ii. MPI effectively owns a 50% stake, the Founders minority stakes.
  - iii. MPI is one, the Founders several.
- d. The value of the ROFR to the Founders is highly theoretical, if only because Quadrant has long term strategic value for MPI. Taking a May 2009 perspective, the Founders would have had to assume MPI would not sell in the foreseeable future, if ever<sup>106</sup>.
- e. Conversely, the same clause is highly valuable to MPI<sup>107</sup> and should be evaluated as a "*Nebenleistung*": it ensures it will have ultimately 1) full control if it so chooses 2) at a reduced price. Indeed, the maximum<sup>108</sup> MPI would need to pay, in theory, is a discounted<sup>109</sup> price reflecting the illiquidity and minority status of the Founders' shares. The main reason is that it will be difficult to persuade anyone to bid (low probability of success, high risk of value destruction by antagonizing MPI, etc. worsened in this case by the need to disclose both the bid and the bidder and to be fully financed up-front)<sup>110</sup>. Furthermore, the bidder, if any, would

scale) expressions as follows: "not at all" (0.0); "not" (0.4); "hardly" (1.5); "a little" (2.5); "slightly" (2.5); "partly" (3.5) and "somewhat" (4.5).

<sup>104</sup> 25% of the minimum value of CHF 43m as calculated in section 5.h. Likewise, we contend that the residual risk cannot plausibly be labeled as low in view of the evidence in section 5.i. and that it should therefore be equal to at least 40%, but to no less than 25% of its maximum amount of CHF 43 to 159m as per section 5.h.

<sup>105</sup> See p. 55 of Fröhls, M., *Internationale Joint Ventures – Eine finanztheoretische Analyse aus Sicht der Eigenkapitalgeber* (1995), who recognises stronger (effectively controlling) weaker (effectively minority) partners within 50/50 JV; see also p. 84 of Park, S. H.; Kim, D., *Market Valuation on Joint Ventures: Joint Venture Characteristics and Wealth Gains* (1997): "Shareholders tend to perceive joint ventures as a risky entrepreneurial operation particularly for small partners. It is indeed difficult to protect the smaller partners' firm-specific know-how from being appropriated by the other partners. Accordingly, smaller firms' role and degree of control in a joint venture substantially affect wealth gains from their joint venturing with larger corporations."; see also pp. 12-13 of Hackmann, S., *Organisatorische Gestaltung in der Post Merger Integration* (2011): "Im Gegensatz dazu stellen sich Fusionen von gleichberechtigten Partnern (Merger of Equals) oftmals nur als eine leere Hülle heraus, da eine der beteiligten Unternehmungen in den meisten Fällen der stärkere Partner ist und dementsprechend mehr Macht in der neuen Unternehmung ausübt."

<sup>106</sup> See p. 1 of Mitsubishi Plastics press release dated May 4<sup>th</sup>, 2009: "The EPP business is the core project in this portfolio [...]; global business development is considered to be vital for business expansion."

<sup>107</sup> See p. 21 of Bikhchandani, S.; Lippman, S.; Ryan, R., *On the Right-of-first-refusal* (2003): "When the seller [the Founders] awards a special buyer [MPI] the ROFR, he confers upon her a distinct advantage: she is more likely to purchase the asset from him, and she pays a lower price than she would in the absence of possessing this option. Concomitantly, the seller places himself in an inferior position by granting such an option."

<sup>108</sup> This is a maximum as, in practice, MPI will dictate the terms which (if it so wishes, and in the absence of any obvious alternative buyers) could be significantly lower.

<sup>109</sup> This combined discount existed in fact as soon as the Founders locked their shares into Aquamit, independently of the ROFR clause. However, the ROFR ensures that i) MPI will be the beneficiary of that reduced price and ii) neutralizes the traditional negotiation tactics used by minority shareholders to maximize their exit value.

<sup>110</sup> See chapter 6 of Brandenburger, A. M.; Nalebuff, B. J. *Co-opetition* (1996) for a game theory analysis of these types of contractual clauses.

not want to pay for more than he actually receives: an illiquid and minority (or at least non-controlling) position.

- f. A combined minority/ illiquidity discount would amount to 30%<sup>111</sup>, possibly higher. We have applied this discount to the Founders' potential exit values to derive potential purchase price savings to MPI. The resulting minimum discounted benefit range is CHF 25.4 to 32.3m<sup>112</sup>.
- g. **We therefore assign a minimum CHF 25.4 to 32.3m value to this ROFR benefit.**

## 7. Renouncing the contractual change-of-control clause

- a. In §5 of the Framework Agreement, the Founders have agreed to the deletion of the change-of-control provision in their employment contracts (§8a "*Kontrollwechsel*"). Aquamit has argued that this should be credited as a benefit.
- b. Instead of valuing the benefit to MPI or Aquamit, IFBC has valued the potential cost to the Founders. We cannot validate this approach in the absence of a convincing rationale linking cost and benefit.
- c. We also question IFBC's hypothesis:
  - i. IFBC assumes a "*tiefe*" change-of-control probability<sup>113</sup>, but applies probabilities of 20%, 25% or even 15%. Using a probabilities range of 5-10%<sup>114</sup> to match the "*tiefe*" semantic would reduce the outcome to CHF 82 to 264K.
  - ii. IFBC calculates, with no justification, an outcome for the first seven years only. Why would a change-of-control take place before the end of the lock-up period? Or fail to do so after seven years?
  - iii. IFBC's model ignores critical variables such as employment of each Founder before and after an hypothetical change of control (two distinct probabilities). When those variables are taken into account, the probability-weighted outcome falls below CHF 100K, hardly substantial enough to qualify as a "*wesentliche Nebenleistung*".

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<sup>111</sup> Our median minority discount amounts to 15%, derived from: Holterman, W.; Rea, N. (n.a.); Englebrecht, T. D.; Anderson, M. M.; Martinson, O. (2006); and Cheridito, Y.; Schneller, T. (2008) and our median illiquidity discount amounts to 18%, derived from: Holterman, W.; Rea, N. (n.a.); Englebrecht, T. D.; Anderson, M. M.; Martinson, O. (2006); Cheridito, Y.; Schneller, T. (2008); and N.N. (2010) (New York State Society of CPA's; Business Valuation Committee CPE Session). The 2008 PWC Global Competency Center Strategy survey, quoted by IFBC comes to a similar conclusion (18-19% and 17% minority and illiquidity discounts, respectively). The mathematical additions of the two discounts (minority and illiquidity) would yield, therefore, a total of 33% (Holterman) and 35 to 36% (PWC) respectively, which we have conservatively rounded down to 30%.

<sup>112</sup> We have calculated fair exit values each year (post the first 5 lock-up years) as follows: Aquamit's prior (to exit) year consolidated EBITDA (derived from the extended PWC business plan), multiplied by normative exit multiples (ranging from 6-10x based on European mid-market acquisition EV/ EBITDA multiples in the period from 1999-2010 as published by Standard & Poors), less Aquamit's end of prior year consolidated net debt. A 30% discount is then applied to the resulting equity values. The discount values are then divided by two (50% MPI ownership) and discounted back to May 1st, 2009 using PWC FO 8.25% discount rate. For instance, in the first possible exit year (year 6) the range of possible exit values is CHF 143 to 550m or CHF 72 to 275m for 50%. The 30% discount is applied to that range and the result (CHF 21 to 83m) is then discounted back to May 1st 2009. The mid-point of the resulting NPV range of CHF 13.3 to 51.3m is CHF 32.3m (highest value of our benefit valuation range). The same calculation yields a mid-value of CHF 25.4m (lowest value of our range) for an exit in 2025.

<sup>113</sup> See footnote 118 of IFBC Report: "*Wir gehen von einer tiefen Eintrittswahrscheinlichkeit für einen Kontrollwechsel aus.*"

<sup>114</sup> This corresponds to the "rarely" or "very unlikely" probability assessment on p. 196 of Hamm, R. M., *Selection of Verbal Probabilities: A Solution for Some Problems of Verbal Probability Expression* (1991); Hamm reviews previous studies and finds that the following mean numerical values are commonly assigned to verbal expressions denoting low probabilities: "rarely" (5-8%); "very unlikely" (9%); "seldom" (10-16%); "not very probable" (20%); "fairly unlikely" (25%); "somewhat unlikely" (27-31%)

- d. One could argue that this perceptual sacrifice was part of the signaling tools used by the bidding party to positively influence the outcome of the takeover. Academic research has shown that signals such as penalties and termination clauses are indeed effective in discouraging alternative bids and encouraging stockholders to tender their shares<sup>115</sup>. As such, they could represent a “*Kontrollverschaffung*” benefit to Aquamit which, as discussed elsewhere (section 9), is deemed accounted for by the control premium.
- e. **In view of the above, we assign no value to this change-of-control renouncement benefit.**

## 8. Risk of a failed takeover

- a. Aquamit has argued that the Founders have assumed a risk of failed takeover and that this should be valued as a benefit to MPI.
- b. IFBC’s calculation raises several questions:
  - i. On methodology: IFBC calculates a cost to the Founders, not the benefit to MPI or Aquamit. Once again, we do not see a rationale to equate cost and benefit in this case.
  - ii. On probability: We agree the takeover could have failed. Yet, the probability of failure was remote: public takeovers rarely fail as most bidders ascertain their probability of success before going public with an offer<sup>116</sup>. Unsurprisingly, history shows management-led takeovers hardly ever fail<sup>117</sup>. In this case, and as pointed out by both Sarasin and Quadrant<sup>118</sup>, the deal was secured by the Founders’ many commitments (see also section 9).
  - iii. On risk assessment in case of failure:
    - I. The Founders still kept their leadership managerial and board positions.
    - II. The share registration may have led to legal action, but our understanding is that the shares, once registered, could not be legally “de-registered”.
    - III. Aquamit would benefit from a potential blocking 33.33% minority, an even stronger position than previously held by the Founders and therefore hardly a risk.
    - IV. We agree that the Founders would have been left with illiquid, locked-up shares, subject to a right-of-first-refusal. As a cost to the Founders it does not need valuing. As a MPI benefit we have addressed this separately in the sections on management know-how (section 3) and right-of-first-refusal (section 6).
    - V. We agree that the Founders would have lost some of their freewill. Yet, relinquishing control is a normal and necessary trade-off for receiving a control premium.
- c. **In view of the above (low probability, undemonstrated risk) we assign no separate value to this benefit.**

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<sup>115</sup> See p. 462 of Officer, M. S., *Termination fees in mergers and acquisitions (2003)*: “[...] the imposition of a termination fee deters potential competing bidders.” and p. 10 of Flanagan, D. J.; D’Mello, J. P.; O’Shaughnessy, K. C., *Completing the Deal: Determinants of successful Tender Offers*. (1998): “As expected, termination fees increased the probability of the tender offer being successful.”

<sup>116</sup> See p. 373 of Hviid and Prendergast, *Merger Failure and Merger Profitability (1993)*: “[...] the rejection of tender offers and merger proposals is rare. [...] bidders may make offers to ensure that the probability of rejection is low [...].” We have ourselves analyzed all public tender offers (takeovers, public exchange offer in cash or shares) for companies listed on the Swiss Stock Exchange between January 2000 and July 2010. In our sample of 105 tender offers only 5 were unsuccessful, implying a failure rate of below 5%.

<sup>117</sup> See p. 8 of Flanagan, D. J.; D’Mello, J. P.; O’Shaughnessy, K. C., *Completing the Deal: Determinants of successful Tender Offers (1998)*: “[...] management buyouts were more likely to be completed than other transactions. [...]. Ninety one percent of the management buyouts in the sample were completed.” Also, out of our sample of 105 tender offers (see footnote above) for companies listed in Switzerland, 9 were partly or fully initiated by management of the target company. All of the 9 offers were successful, though one became the subject of a competing bid.

<sup>118</sup> See p. 8-10 of Bär & Karrer letter dated March 19<sup>th</sup>, 2012. Also see p. 22 of Baker & McKenzie letter dated June 23<sup>rd</sup>, 2009.

## 9. Other benefits

- a. The Founders provided several significant direct or indirect benefits:
  - i. Commitment to register Aquamit with its full voting rights.
  - ii. Commitment to have Quadrant pre-sell its treasury shares.
  - iii. Commitment to procure the positive vote of the Board.
  - iv. Commitment not to encourage alternative bids.
  - v. Intermediation for the purchase of the shareholdings of Swiss Small Cap InvestAG, Corisol Holding AG and KWE Beteiligungen AG (the "Intermediation").

These undoubtedly benefited Aquamit and MPI as they facilitated the success of the takeover<sup>119</sup> and greatly reduced the risk of failure<sup>120</sup>. The significant float, the statutory limitations on voting rights, the creeping position of a tactical shareholder<sup>121</sup> are some of the technical elements which made a takeover unlikely to succeed without the help of the Founders.
- b. These commitments have the characteristics of "*Nebenleistungen*": they are, *per se*, not part of the block transaction; they are commitments which only the Founders (and no other minority shareholder) could deliver; and they were delivered *ex-ante*.
- c. In spite of the above and their obvious value<sup>122</sup>, and notwithstanding **the absence of clear regulatory guidance or legal doctrine**, it would contradict the spirit of the minimum price rule to evaluate those benefits separately<sup>123</sup>, since our understanding is that the maximum 33% control premium is meant to be an all-encompassing compensation for control in all its components.
- d. **In view of the above, we have therefore not valued those other benefits.**
- e. In the Intermediation case, however, the Founders have not only facilitated control (securing the 33.33% blocking minority), but have also negotiated the purchase, not at CHF 114.5, but at

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<sup>119</sup> See Flanagan, D. J.; D'Mello, J. P.; O'Shaughnessy, K. C., *Completing the Deal: Determinants of successful Tender Offers* (1998) who review existing literature on this subject which found that hostile managerial reactions tend to significantly lower the probability of tender offer completion (Hoffmeister, J. R.; Dyl, E. A. (1981); and Walkling, R. A. (1985)), while the percentage of shares owned by the bidder prior to making the offer enhanced the probability of success (Walkling, R. A. (1985)).

<sup>120</sup> See p. 5 of Bär & Karrer letter dated May 14<sup>th</sup>, 2012: "[...] dass Quadrant ohne Zustimmung der Founders kaum übernommen werden könne, obwohl es Aktionäre gibt, die eine erhebliche Beteiligung aufgebaut haben."

<sup>121</sup> See L'Agéfi Suisse news report dated June 3<sup>rd</sup>, 2009 in which it is reported that Dr. Adrian Niggli was suspecting the investor Giorgio Behr to be waiting for the appropriate moment to take creeping control of Quadrant.

<sup>122</sup> See p. 9 of Bär & Karrer letter dated March 19<sup>th</sup>, 2012: "Die durch die Founders bereitgestellte Ausgangsbeteiligung von Aquamit verhinderte überbeuerte Übernahme der Quadrant. See also p. 8-10, answer to question 5.a of Bär & Karrer letter dated March 19<sup>th</sup>, 2012: "a) Founders waren "Schlüssel" für eine erfolgreiche Übernahme der Quadrant zu einem fairen Unternehmenswert [...]" ; "Aus rechtlicher Sicht ist es bei einer derartigen Ausgangslage für ein öffentliches Angebot so, dass [(i)] einerseits wegen der bereits bestehenden Sperrbeteiligung" des Anbieters ein konkurrierendes Übernahmeangebot eines interessierten Dritten äusserst unwahrscheinlich ist; und dass [(ii)] andererseits wegen der derart starken bereits bestehenden Beteiligung des Anbieters vor der Veröffentlichung der Voranmeldung (also unabhängig vom Andienungserfolg) die Erfolgswahrscheinlichkeit des Übernahmeangebots sehr gross ist.

<sup>123</sup> This is at least the strong view of Backer McKenzie. See p. 4 of Baker McKenzie letter dated July 6<sup>th</sup>, 2009: "Das Management Team hat dafür gesorgt, dass der Verwaltungsrat nicht nur den Aktionären die Annahme der Transaktion empfiehlt, sondern die Anbieterin auch noch eigene Aktien der Gesellschaft günstig verkauft hat [...]. Gerade diese Leistungen, d.h. die Übertragung der Kontrolle können aber nicht separat ausserhalb der 25%-Grenze abgegolten werden, da der Transfer der Kontrolle auf dem Aktienbesitz des Management Teams beruht und deshalb mit der Kontrollprämie von 25% abschliessend abgegolten wird."

CHF 104.5. The value to MPI of this intermediation service at a lower purchase price is CHF 1.5m (306,052 shares multiplied by CHF 10 and divided by 2)<sup>124</sup>.

- f. **We would therefore credit CHF 1.5m as Intermediation “Nebenleistung” by the Founders.**

## 10. Board stock options value

- a. The *Bundesverwaltungsgericht* has validated the use of the Black Scholes valuation model for the purposes of evaluating stock options.
- b. The premium of CHF 16.22 calculated by Vontobel has been validated by Deloitte. We do not question this calculation but its assumptions:
- c. Option terms (strike and maturity):
  - i. The options have been valued as market options. This ignores the fact that those were management stock options, subject to specific contractual terms, including clause 2.2 of the Quadrant Board Stock Option Plan (the “QBSOP”) which allowed a re-setting of the strike price in the event of a change of control.
  - ii. On May 1<sup>st</sup>, 2009, the trigger conditions for clause 2.2 were fulfilled.
  - iii. Even if one assumes that the Founders could not benefit from the clause 2.2 (as appears, surprisingly, to have been the case<sup>125</sup>), they did have the right to sell those options to a third party who would have been entitled to the benefit of clause 2.2 (the options being fully transferable without restrictions).
  - iv. We do understand the rationale of contributing those options to Aquamit instead of selling them in the market<sup>126</sup>. Our task, however, is to value them as they would be valued by a third party. Therefore, the contractual rights under clause 2.2 of the QBSOP should be taken into account.
  - v. If Clause 2.2 is applicable, our pricing hypotheses are significantly different from those used by Vontobel and validated by Deloitte: CHF 55 strike price<sup>127</sup> and 30 days maturity<sup>128</sup>.
- d. Spot reference price: Vontobel and Deloitte have performed the valuation on the basis of a CHF 107.5 reference price for the stock, a 25% premium to the price offered to the public. A 33% premium is allowed under the minimum price rule. Therefore, a reference price of CHF 114.5 was permissible.
- e. Using the Black Scholes model, the “re-striking” at CHF 55 under clause 2.2, and the same risk-free rate and volatility parameters as Deloitte and Vontobel, **the market value of the board**

<sup>124</sup> An alternative way is to value this benefit as an intermediation fee: a typical investment banking commission on this mid-market type transaction would amount to approx. CHF 1m, being the mid-point fee value between a commission based on a strict Lehman scale and a straight 5% fee. See Thorpe, D., *Fees: What to expect to pay your investment bank* (2006): “Ignoring the costs of any required fund raising, the fees for advising the buyer or seller in the middle market arena, tend to follow the 5-4-3-2-1 “Lehman Formula.” The Lehman Formula provides that the advisors get 5% of the first million, 4% of the second, 3% of the third, 2% of the fourth and 1% of all the consideration above four million.”; “Some firms charge much more than the Lehman Formula, sometimes up to 5% on everything.” A BCG study on fees quoted in the AGEFI, based on Thomson One Banker data, indicates an average 4.8% fee for transactions below \$25m.

<sup>125</sup> See p. 4 of Lenz & Staehelin letter dated May 14<sup>th</sup>, 2012: “Eine Rückabwicklung des Optionserwerbs durch die Optionsinhaber setzt ein Übernahmeangebot durch eine Drittpartei voraus. Da das Management zu 50% an der Akquisitionsgesellschaft Aquamit beteiligt war (und weiterhin ist), war es nicht berechtigt, seine Management-Optionen unter dem Optionsplan an Quadrant zurückzuverkaufen.”

<sup>126</sup> See p. 3 of Lenz & Staehelin letter dated May 14<sup>th</sup>, 2012: “Die Absicht von MPI und des Management war es, als gleichberechtigte Joint Venture Partner zu je 50% an Aquamit beteiligt zu sein. Aus diesem Grund war klar, dass das Management auch seine Management-Optionen, welche es ursprünglich zum damaligen Verkehrswert von Quadrant erworben hatte, auf Aquamit übertragen musste.”

<sup>127</sup> Closing price on April 1<sup>st</sup>, which is the lowest closing price of the stock during the 30-day trading period preceding the announcement of the offer.

<sup>128</sup> Period to exercise the early exercise option under clause 2.2.

stock options was CHF 31.0 (reference price of CHF 86) and its permissible value was CHF 59.5 (CHF 114.5 reference price). The Quadrant shares have therefore not been bought from the Founders at CHF 114.5 but at CHF 110.6<sup>129</sup> (market value for the option) or possibly CHF 103.2<sup>130</sup> (permissible value for the option).

## 11. Conclusion on minimum price rule

- a. The *Nebenleistungen* “rounded” valuations are summarized in the table below<sup>131</sup>:

<b>Benefits to Founders and MPI (rounded values in CHFm)</b>	
<b>Benefit to the Founders</b>	
1 Financing advantage (section 2)	28-36
<b>Benefits to MPI</b>	
1 Management know-how and experience (section 3)	7 - 15
2 Consolidation (section 4)	0
3 Warranties and agency cost reduction (section 5)	> 11 <sup>132</sup>
4 Renouncing the contractual change-of-control clause (section 7)	0
5 Share pledge (valued as part of section 5)	0
6 Management lock-up (valued as part of section 3)	0
7 Right-of-first-refusal to MPI (ROFR) (section 6)	25 - 32
8 Risk of a failed takeover (section 8)	0
9 Other benefits (section 9)	1
<b>Total benefits to MPI</b>	<b>&gt; 44 - 59</b>

- b. As shown above, the benefits to MPI, without taking into account the agency costs reduction (CHF 33 to 48m), outweigh the benefits to the Founders (CHF 28 to 36m). If we take the minimal agency cost benefit into account, balance is maintained even in the “strictest” scenario (minimum benefits to MPI, maximum benefits to the Founders).
- c. We are all the more comfortable for the following reason: As stated up-front and for comparative purposes, we have used PWC’s WACC as discount rate for our benefits valuation. This assumption potentially underestimates the true value of the Founders’ benefits to MPI as, logically, these should be discounted at MPI’s WACC or at least at the normative WACC of a third party<sup>133</sup>. This would justify an incremental NPV benefit to MPI of CHF 5 to 13m<sup>134</sup>.

<sup>129</sup> On the basis of the options market value of CHF 31.0 per share (CHF 25,710,822 - (31.0\*113,500 / 2)) divided by (433,019 shares / 2).

<sup>130</sup> On the basis of the options permissible value of CHF 59.5 (CHF 25,710,822 - (59.5\*113,500 / 2)) divided by (433,019 shares / 2).

<sup>131</sup> PPCmetrics has suggested an alternative method, using an options pricing model. While we understand the concept we are unable to validate its simplifying assumptions which fail to recognize the illiquid nature of the investment, the many condition precedents to exit, the ROFR, etc.

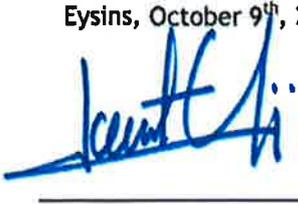
<sup>132</sup> The maximum would amount to CHF 119m, equal to 75% of CHF 159m. See footnote 104.

<sup>133</sup> Conversely, the WACC for the Founders, as private individuals, may be higher than PWC’s. In the absence of an objective measure, however, PWC’s WACC acts as a good proxy to discount the MPI benefit to the Founders.

<sup>134</sup> The incremental benefit range is computed as the difference between NPVs at (i) PWC’s Quadrant WACC of 8.25% and (ii) WACCs of 5.1-7% (see footnote 102) of the management know-how and experience (section 3) and ROFR benefits (section 6).

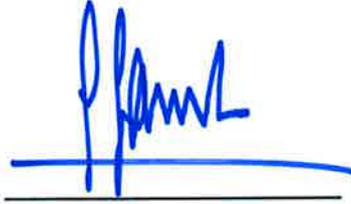
- d. We therefore conclude that the price paid<sup>135</sup> to the Founders for their Quadrant shares complies with the minimum price rule.

Eysins, October 9<sup>th</sup>, 2012



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**Laurent Quirin**



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**Francis Canard**



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**Dominik Belloin**

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<sup>135</sup> This is all the more true since, as shown in section 10, the Quadrant shares have not been purchased at CHF 114.5 from the Founders but at CHF 110.6 or, possibly, at CHF 103.2.

## 12. Glossary and abbreviations

Term	Description
avg.	Average
Book Cap.	Book capitalization
bps	Basis points
CEO	Chief Executive Officer
CHF	Swiss Franc
DCF	Discounted cash flows
EBITA	Earnings before interest, tax and amortization
EBITDA	Earnings before interest, tax, depreciation and amortization
EIF	European Investment Fund
EPP	Engineering Plastic Products
EPS	Earnings per share
EV	Enterprise value
EVCA	European Private Equity & Venture Capital Association
FCF	Free cash flows
FFO	Funds from operations
HR managers	Human resources managers
IRR	Internal rate of return
J-SOX	Japanese Sarbanes-Oxley
LBO	Leveraged Buy-Out
LMA	Loan Market Association
LT	Long term
m	Million
MBO	Management Buy-Out
n.a.	not available
NPV	Net present value
P/B	Price/ book (= price/ net asset value)
P/E	Price/ earnings
PER	Price earnings ratio (= P/E)
PTO	Public Take-Over
PTO Bond	Public Take-Over Bond
PTO-Wandelanleihe	Public Take-Over-Wandelanleihe (= PTO Bond)
PWC FO	PWC's fairness opinion dated April 30 <sup>th</sup> , 2009
QBSOP	Quadrant Board Stock Option Plan
RCF	Retained cash flows
ROFR	Right-of-first-refusal
S&P	Standard and Poor's
SOX	Sarbanes-Oxley
UBS	UBS AG
USD	US Dollar
WACC	Weighted Average Cost of Capital
WTP	Willingness to pay