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## Preface

Crayon is the most shorted company on the Norwegian stock exchange, measured as short interest in percentage of total number of shares outstanding. This implies the shorters as a collective group believes Crayon is the worst investment in Norway today. We think the shorters are almost completely wrong and we find Crayon to be the best investment opportunity on the Norwegian stock exchange today. We've previously shared our research on Crayon and we think this is the perfect opportunity to update our research and address the concerns about Crayon that are prevalent in the market.

Recently an analyst told us that 95\% of his conversations with investors regarding Crayon was about net working capital. This is naturally an exaggeration but still illustrates how important cashflow in general and net working capital in particular is to the investors right now. In our experience net working capital and the long overdue receivable from the Philippine government is at the core of the short thesis and strikes fear in the hearts of the long only investor community.

## Net working capital

Net working capital (NWC) is important to most businesses and even more so to Crayon. If you want an overall introduction to Crayon and their business model you can read the research paper we publicized in January 2023 but to briefly summarize: Crayon is a global software reseller and software asset management advisor. As a software reseller Crayon handles the sale, service and payment for software and earns a small percentage of the total cost of the software, typically $5-8 \%$, while the rest goes to the software vendors like Microsoft, Google Cloud and Amazon Web Services. This means Crayon handles very large sums of money relative to Crayons own revenue and gross profit, which makes fluctuations in NWC much larger compared to Crayon's earnings and thus more important than for the average business. Before we start diving into Crayon's NWC, let's start with the basic cashflow characteristics of business.

Most companies need cash to operate, and the need can roughly be divided into two buckets. Cash to fund 'production assets' like factories, machinery, and vehicles and cash to fund the day-to-day operations in the form of inventory, accounts receivable, accounts payable, duties etc. The bucket 'production assets' is very easy to cover in this case because Crayon has no need for factories and other tangible production assets and is thus very asset light in this category. Most of Crayons intangible assets are results of peculiar accounting rules and have no impact on cashflows. For further details on the accounting of intangible assets, see our previous research paper on Crayon from January 2023 page 10 and $11^{1}$. Crayon's main 'production assets' are its employees and the cost to attract and retain employees are fully expensed up front.

NWC is more complicated because it involves both assets and liabilities and quite counterintuitive when it comes to NWC, assets are bad and liabilities are good. The big components of NWC are typically inventory (asset), accounts receivable (asset) and accounts payable (liability) but other assets and liabilities like public duties, prepayments, accruals,

[^0]etc. can also have a significant impact. A typical business needs an inventory to be able to generate sales and customers may not pay at the time of purchase, which shows up as accounts receivable on the balance sheet. You can think of accounts receivable as an interest-free loan from you to your customers. At the same time, most businesses have suppliers which they also do not pay immediately, which shows up as accounts payable on the balance sheet. You can think of accounts payable as an interest-free loan from your suppliers to you. The net amount of these assets and liabilities are known as net working capital and are typically a low double-digit percentage of revenue. NWC is important not only because it shows the cash needed to fund the business today but also because it is a good indication of how much cash is needed to fund the NWC part of the future growth of the business. This also means that the faster a company grows, all else being equal, the more important are the cashflow characteristics of the business.

When it comes to NWC Crayon is blessed by basically not having any inventory which greatly reduces and thus improves NWC. Historically Crayon has had significantly negative NWC but as shown in Chart 1 NWC has strongly increased from an all-time low of -30\% of gross profit in Q4 2020 to + 2\% in Q3 2023. Given the importance of NWC in general and for Crayon in particular, this is very worrisome.


## Unpacking Crayon's NWC

Crayon's NWC is seasonal with Q2 and Q4 typically being good quarters, while Q1 and Q3 typically are less so. The large payments Crayon handles on behalf of the software vendors make both seasonal and random fluctuations much more pronounced, relative to the average business. As is common practice for software resellers, Crayon uses gross profit as their main topline figure instead of revenue. Crayon's gross profit is about 11,5\% of Crayon's gross sales and Crayons revenue is about $13,5 \%$ of Crayons gross sales. To smooth out the seasonality and reduce the random fluctuations between quarters, Crayon's main measure of NWC is calculated as the average NWC of the last four quarters divided by the last twelve months gross profit. This measure is a great way to smooth out the fluctuations and allows for a much better view of the underlying development. One quirky implication of this calculation method is when structural changes do happen, it takes four quarters to be fully
visible. Say NWC significantly and permanently improves in Q1 of a given year. When Crayon's net working capital is calculated in Q1, only a fourth of the effect is visible, because the calculation is the average of Q1 and the previous three quarters. In Q2, half of the effect is visible, in Q3 three fourths of the effect is visible and only in Q4, a full year after the structural change happened, is it fully visible. This quirky detail may seem irrelevant, but it is not as you will see later. First we will try to get the best possible understanding of the true underlying NWC development of Crayon.

## Financing

Non-recourse factoring is a financing method where Crayon sells accounts receivable to a financial institution and receives the payment before the receivable is due. For their effort and to compensate for the small risk that the receivable is not paid, the financial institution charges a cost to Crayon. In Crayon's reported financials, this practice reduces accounts receivable and thus improves NWC but comes with a cost, which nullifies the advantage of the improved NWC. The real value of a negative NWC is that it is cost free, so although factoring technically reduces and thus improves NWC, the improvement is artificial and should be adjusted to gauge the real underlying development in NWC.

Supplier financing is another financing method, which Crayon recently started using. Supplier financing means a financial institution pays Crayon's accounts payable when the invoices are due and allows Crayon to pay at a later date, charging an interest cost for the effort. In Crayon's reported financials this is either neutral or an increase and thus deterioration of NWC, because any early payment decreases accounts payable, which is a liability. As far as we are aware, Crayon does not use supplier financing to pay early, so it has no impact on NWC. Supplier financing can be cheaper than non-recourse factoring because the credit risk to the financial institution is smaller when Crayon is liable for the payment.

## Western Government

In Q3 2023 Crayon's NWC increased by 350 MNOK compared to Q3 2022 due to a large contract with a western government. Crayon received all payments on time in the beginning of Q4 and the effect on NWC was caused by some technical timing effects, which was the results of the contract covering 37 months. There can be a real cost of receiving the payment a month later but when evaluating the underlying development in Crayon's NWC, we argue this is a random fluctuation and should be adjusted to better see the real like-for-like development from Q3 2022 to Q3 2023. We will address the real cost later.

## Microsoft

In Q3 2023 Crayon's NWC increased by 100 MNOK because the final settlement of payments was delayed. Everything was settled in the beginning of Q4. This delay has a real cost, but when evaluating the underlying development, we argue this is a random fluctuation and should be adjusted to better see the real like-for-like development from Q3 2022 to Q3 2023. We will address the real cost later.

## Philippines

Crayon has an overdue receivable of 45 MUSD from the Philippine government, which should have been paid roughly one year ago and still have not been received. This has a very large and real cost, which we will address later. In terms of evaluating the underlying
development of Crayon's NWC this is luckily a truly extraordinary situation. From a NWC perspective, even in a worst-case scenario where the receivable is never paid, the overdue receivable will eventually disappear from Crayon's NWC. If the overdue receivable is paid, NWC will decrease and thus improve by 45 MUSD. If the overdue receivable is never paid, Crayon will have to write it down, resulting in an accounting loss of 45 MUSD. If the receivable is written off, NWC will also decrease and thus improve by 45 MUSD. We therefore argue the overdue receivable from the Philippine government should be adjusted to see the underlying development in NWC. Comparing Q3 2023 with Q3 2022 the net effect is 200 MNOK because the situation was already partly affecting NWC in Q3 2022. The situation had no effect in Q2 2022 and the net effect comparing Q2 2023 to Q2 2022 is 45 MUSD.

## Change of accounting practices

In May 2022 the IFRS Interpretation Committee (IFRIC) published new guidance to the principal versus agent assessment under IFRS 15 for software resellers. This made almost all software resellers change their recognition of revenue from recognizing everything they invoiced as revenue, meaning also the very large part that was passed on to the software vendors, to only recognizing the fraction of invoiced revenue retained by the software reseller. This change in accounting practices dramatically reduced reported revenue for software resellers but had no impact on earnings nor the balance sheet.

Some software resellers including Crayon and their closest listed peer SoftwareOne interpreted the new guidance in a way, that also impacted when revenue and gross profit is recognized for some multiperiod contracts. Under the new accounting practices gross profit for some multiyear contracts is recognized at once and not when invoiced as was previously done. The effect on Crayon's reported financials was that gross profit increased, earnings decreased, equity increased, and NWC increased. Because an increase in NWC is bad, the change in accounting principles adversely impacted Crayon's NWC. For a full walkthrough of the reasoning and financial implications, see Crayon's 2022 annual report page 33 and onwards.

The change in accounting practices has zero impact on Crayon's cashflow, which will be exactly the same both in terms of size and timing, no matter what accounting practice is applied. However, accounting practices do impact the profit and loss statement and the balance sheet. The reason the new accounting principles worsened NWC is because the cashflow is unchanged while revenue is recognized early. When revenue is recognized early, before it is invoiced to the customer, it shows up on the balance sheet as other current receivables which is part of NWC. Normally early recognition of revenue increases earnings but this has so far not happened to Crayon because the share of multiyear agreements is decreasing, resulting in a net negative impact on earnings in 2021 and 2022. For 2023 we do not know the exact impact, but a guestimate is that earnings improved relative to 2021 and 2022.

Crayon restated their financial numbers back to 2021 when they changed accounting principles. To get comparable numbers, we estimate the net impact on NWC prior to 2021 if those years also had been restated. Our estimate is based on the average net impact on NWC in the quarters where we both have the original and restated financials numbers. The
average net impact on NWC is +10 percentage points of gross profit which we adjust for in 2020, 2019 and 2018, resulting in a higher and thus worse NWC in those years.

## Adjusted net working capital

In Appendix A a table is shown with the adjustments to NWC quarter by quarter. We believe these adjustments to NWC give a more accurate picture of the real underlying development in Crayon's NWC over time. The results are presented in Chart 2, where Adjusted NWC/gross profit shows NWC with the adjustments for non-recourse factoring, western government, Microsoft, Philippines, and the changes in accounting practices. This is likely to be an unfavorable representation of Crayon's real underlying NWC because Crayon acquired Rhipe in Q4 2021. Rhipe followed accounting principles that were similar to Crayon's old and more favorable accounting principles. When Rhipe was consolidated in Crayon's financial reports from Q4 2021, using Crayon's new and less favorable accounting principles, Rhipe is very likely to have adversely impacted Crayon's NWC. Rhipe is also likely to have had an outsized impact on Crayon's NWC because Rhipe has a very large software channel business which has a low gross margin, meaning the balance sheet is large relative to the gross profit.

Chart 2: Development in Net working capital to Gross profit


Unfortunately, we have no accurate way of estimating the size of Rhipe's impact on Crayon's balance sheet and NWC, so we do not adjust for it. Rhipe's consolidation into Crayons financials in Q4 2021 does coincide with a large increase and thus deterioration from Q4 2021 to Q3 2022. Remember how the calculation method Crayon uses for NWC/gross profit has the implications that structural changes take four quarters to be fully visible, because the calculation uses the average NWC of the most recent four quarters. The dotted line Adjusted NWC/gross profit (including Rhipe) shows the underlying development in NWC if Rhipe was fully responsible for the net deterioration in NWC in the four quarters where the consolidation of Rhipe impacts Crayon's NWC. We think the consolidation of Rhipe is responsible for some but not all the deterioration in NWC from Q4 2021 to Q3 2022.

The adjusted numbers give a far more favorable view of the development in NWC than the reported numbers. There has been some real deterioration in NWC in recent years, but to a much lesser degree than the reported numbers show. If we look at the full period, NWC is roughly flat since 2018 and 2019. When COVID hit the global economy in 2020 governments around the world introduced huge financial stimulus, including numerous measures that strengthened the liquidity of companies (e.g. delayed payments of taxes and duties, early payment from governments to companies, etc.), so they could withstand the financial shock COVID caused. These measures decreased and thus improved Crayon's NWC and likely accounts for a large portion of the improvement and subsequent deterioration in both reported and adjusted NWC in 2020. If we look at the different parts that make up NWC, trade working capital (inventory, accounts payable, and receivable), which Crayon has significant influence on. This has improved while other working capital (Public duties, income taxes payable, other current payables, and -receivables, etc.), which Crayon has less influence over, has deteriorated.

If we look at the most recent development, Crayon's NWC has improved for three consecutive quarters, as could be expected given the increased attention Crayon's management has put on NWC. Peeking into the future, we know the adjustment for the western government and Microsoft has already been settled and will be visible in the reported numbers for Q4 2023. We do not know when the overdue Philippines receivable will be paid or written down, but we know it ultimately will be leaving Crayon's NWC. Assuming there is no change in real underlying NWC and that Crayon's use of non-recourse factoring for financing is steady, reported NWC will improve 11 percentage points from today's level of $+2 \%$ to $-9 \%$ as illustrated by the striped part of the lines in Chart 2.

Turning to the cost of the adjustments we've made to Crayon's NWC, the adjustment for factoring increases and thus deteriorates NWC, while Crayon pays interest which is already visible in Crayon's financials. All costs are already visible.

The western government payment was on time, but just happened to be in Q4 2023 versus Q3 the previous year. The economic cost is arguably zero because everything was settled on time, it just happened to be before the 1st of October in 2022 and after the 30th of September in 2023.

The Microsoft settlement was slightly delayed and may have resulted in a small economic cost in the form of interest paid that could have been avoided if everything had been settled on time. Any excess interest paid would likely be less than 1 MNOK.

The economic cost of the overdue receivable from the Philippines varies widely depending on whether it will be paid or not. If the receivable is paid, the economic cost is any excess interest paid by Crayon that is not compensated by the interest charged on the delayed payment. If the receivable is ultimately not paid, the economic cost is a massive 45 MUSD in addition to intangible costs like loss of reputation. It is very difficult to quantify the intangible costs in case the receivable is never paid, but the Philippines makes up a few percentages of Crayon's total gross profit. Therefore, even if Crayon's business in the Philippines is effectively shut down, the impact on future revenue streams is limited unless it has a noticeable international impact.

There is no economic cost from changes to the accounting principles. The cashflows are completely unchanged and if anything, the changes to accounting principles significantly understates the true economic value of Crayon, since it decreased earnings in 2021 and 2022 and makes NWC look significantly worse than under the previous accounting principles, which many competitors continue to follow today.

If one uses the net interest-bearing debt that was reported in Q3 2023 as the basis for a valuation of Crayon, the debt is overstated by 931 MNOK because of payments that was missing in Q3 of which we know a little less than half has been received already in Q4. With Q3 being a seasonally weak quarter for NWC, we are likely to see a very large improvement in cashflow in Q4, with minimum 450 MNOK from the western government and Microsoft adjustment in addition to a seasonally strong quarter for NWC. One could argue a very severe scenario where the receivable from the Philippines must be written off accompanied by a roughly equal intangible loss already is fully accounted for in the reported Q3 net interest-bearing debt figure.

## Where is the cash?

Reported cashflow has been terrible since the extreme peak at the end of 2020, when reported NWC/gross profit reached -30\%. However, the vast majority of the 'missing' cash is explained by 2020 being an artificial peak fueled by public COVID support and the adjustments we've made to reported NWC. When looking at figures adjusted to better represent the true underlying development, NWC and cashflow appears satisfactory, being roughly at the long-term historic level. In the years prior to 2020 Crayon's cashflow was great with a high cash conversion of reported EBITDA and in 2020 it was extremely good, fueled by temporary COVID support.

Although NWC explains most of the movements in cashflow, it is also worth mentioning financial costs, which have increased significantly in recent years. Most of the increase is driven by a large increase in gross interest-bearing debt and interest rates. The large increase in gross interest-bearing debt is driven by the reported deterioration of NWC and the acquisition of Rhipe, which prudently was partly financed by new equity. Naturally, future interest expenses largely depend on the same two factors (gross debt and interest rates) however other financial costs have also contributed significantly to the total financial costs. Other financial costs have largely been driven by a depreciation of the NOK, which is Crayon's reporting currency, against other currencies which Crayon does business in. If the NOK is roughly stable in the long run, this cost should be zero on average. Other financial costs have historically largely, but not perfectly followed the depreciation and appreciation of the NOK. Crayon has recently started addressing the volatility by better balancing the exposure to different currencies, which should limit future gains and losses created by fluctuations in the NOK.

Peeking into the future, we think Q3 2023 is likely to be the bottom on reported cashflow and the peak of reported NWC. The reported numbers will very likely improve significantly going forward, even without any real underlying improvement because of how NWC/gross profit is calculated. We also think it is likely that real underlying cashflows and NWC will
improve going forward, although improvements in adjusted NWC requires attention and hard work by Crayon.

## Other accusations and concerns

Moving on from " $95 \%$ of the conversation" we'll address other significant accusations and concerns in the market.

## Aggressive accounting

The change in accounting principles has led to accusations and concerns of aggressive accounting by Crayon. Technically speaking this is correct because Crayon does recognize some revenue early. However, we argue the reality is the exact opposite. Aggressive accounting is a serious issue, because companies can use it to make the reported financials look artificially good compared to the underlying reality and it indicates malicious intentions. In the case of Crayon, the change in accounting principles was initiated by IFRS Interpretation Committee (IFRIC) publishing new guidance to the principal versus agent assessment under IFRS 15 for software resellers. Crayon along with some competitors interpreted the new guidance in a way, that requires some revenue to be recognized early, before a customer is invoiced. Measured by gross profit, the early recognition is equivalent to less than one month of gross profit being recognized early. For earnings the early recognition is equivalent to a couple of months of earnings but the net effect on reported earnings is small, because the share of profits being recognized early is decreasing.

The financial implications of the changes in accounting principles are a significant increase in equity (low importance), a small increase in gross profit (medium importance in today's financial markets), a small decrease in earnings in 2021 and 2022 (medium/high importance) and a significant increase and thus deterioration in NWC (very high importance). We do not know the impact on earnings in 2023 but our guestimate is, that it is likely to be more positive than in 2021 and 2022. Again, it is worth highlighting that the size and timing of the cashflow Crayon generate are completely unchanged by the accounting methodology and thus the true value of Crayon is unchanged. We think it is very likely Crayon's share price would be significantly higher if Crayon had not interpreted the new guidance from IFRIC in a way that recognizes some revenue early and increases, and thus deteriorates NWC significantly. If Crayon changed interpretation tomorrow, reported NWC would improve by up to 10 percentage points. We also think it is very likely Crayon has made the interpretation in good faith and that the decision easily could have been the other way like many competitors.

## Decreased information quality of financial reports

Several changes to accounting practices requires Crayon's financial reports to be read more carefully than the average financial report, but the information quality is generally good with lots of relevant details including detailed information on different business areas, regions etc. Crayon has also started disclosing what exactly other current receivables and payables are made up of, after several accounting changes inflated the numbers and made the details important. We've already discussed the NWC impact of the IFRS 15 change, but it also impacted how certain incentives were booked. Some incentives that previously were booked as a reduction in cost of sales at the individual business units are now booked as revenue at
the headquarter. This makes the reported earnings in the various business segments and regions appear worse while headquarters look better. It is worth mentioning another change in accounting practices from 2021, which reclassified value added taxes from being reported on a net amount to a gross amount. This inflated other current receivables and payables but did not have any net impact on NWC. This change likely significantly increased the impact on the size of the balance sheet when Rhipe was consolidated into Crayon's financials. We would like to see fewer changes in accounting practices going forward, but it is worth highlighting both changes made the reported numbers look worse, so there is no reason to doubt they are made in good faith.

Overall, we believe the information quality is above average but not perfect. There are a few pieces of information that are missing and relevant, like restatements of some of the accounting changes further back, which may help quantify the impact of Rhipe's consolidation into Crayon's Financials. Some of the important details and changes could also be communicated more thoroughly in advance. To the reader with the time to carefully read through the financial reports, including the notes at the end, the information quality is great. Additionally, if one keeps a spreadsheet with the relevant financial numbers, it is also relatively easy to maintain the big picture and navigate through all the details.

## Bad macro outlook

The bad macro outlook and tough comparables on growth are also highlighted by some as major concerns for Crayon going forward. We are by choice not macro forecasters, but clearly the macro environment is worse today than it has been in the last couple of years. Luckily Crayon's business is resilient to bad macro because Microsoft Excel and most other software are essential for most business. Just look at how software resellers are performing relative to a more cyclical business like hardware reselling these days.

We would highlight that the peak growth in percentage points from cloud adaptation almost certainly is in the past. Crayon has a strong position in the cloud and has benefitted significantly from the increased adaptation of cloud by businesses. During COVID many types of software experienced an artificial boost which to varying degrees has turned from an artificial tailwind to an artificial headwind. Importantly the long-term underlying growth in enterprise software is great and while the megatrend of cloud adaptation very likely has passed peak growth in percentage points, new (mega)trends emerge than can drive high future growth for Crayon. Security and artificial intelligence (AI) are two areas where Crayon has a strong position that are likely to drive significant growth in the future. You may ask, how do we know Crayon has a strong position in AI? We base it on a number of datapoints including AI being highlighted by employees at the software vendors as one of Crayon's strengths, Crayon being one of very few Microsoft partners that was selected to help with the early launch of Copilot, and Crayon investing in AI well before the launch of ChatGPT popularized AI in the public awareness.

Future growth drivers can be hard to quantify but with Microsoft's launch of Copilot we can do a rough estimate of the potential impact for Crayon. Microsoft has announced a price tag of 30 USD per month for Copilot and different industry sources have indicated the recurring incentive for software resellers like Crayon can earn on average to be mid-single digits. Although Copilot initially will only be available to large enterprise customers, it is very likely
to be available to all customers over time. Crayon has roughly 12 million Microsoft 365 seats which eventually could upgrade to include Copilot. Based on these numbers we can estimate the potential recurring gross profit Crayon can earn on Copilot to 2.400 MNOK which is $45 \%$ of Crayons total gross profit today. Obviously all 12 million seats will not upgrade to Copilot, the conversation rate is anyone's guess at this stage, we will have to wait and see.

The potential impact of Copilot is a helpful indication of what the future can bring if some of the hype around AI has substance, and the estimate is just for one form of incentive for one product. Microsoft is likely to offer other incentives focused on boosting the Copilot userbase and Crayon can provide related services, such as help with implementation, governance, etc. To reach the full potential of AI, companies need to move to the cloud, so a commercial breakthrough for AI could also fuel significant cloud growth.

## Reseller risk

Crayon's business is built around reselling software from other companies (vendors), and thereby does not have the same level of control that most companies enjoy. This model has some advantages like requiring low capex and the potential to switch to competing products if current products lose their competitive edge, but there is no doubt the lack of control outweighs the benefits. Ultimately the terms of business are decided by the software vendors like Microsoft and they have no intention to leave more on the table than just enough to adequately motivate the software resellers.

We do think the partner model is a win-win-situation, that mutually benefits both the vendor and the reseller. To vendors like Microsoft the partners act like an independent sales and service organization, taking care of thousands and sometime millions of customers that would require a huge organization to service alone. The partners act as sales agents that are responsible for implementation, advisory, first line of support, billing and payments, and more. For the services the vendors share a fraction of their income with the reseller in the form of incentives. The reseller's share reflects the value they deliver and varies a lot by product. For mature products like Microsoft 365 or simple blob storage in the cloud resellers earn a very limited incentive, while new and innovative products that need to be introduced and thoroughly explained to customers come with very healthy incentives. The size of the incentives also depends on the level of competition, if a product is a monopoly, the incentives are smaller. This means resellers generally thrive in a competitive world with a high pace of innovation and vice versa.

The partner model is an integrated part of Microsoft's business and we see some small movement by competitors like Google Cloud and Amazon Web services towards a similar model. We think there is a very low but nonzero risk that Microsoft structurally damages the partner model. Just think what would happen to Microsoft's market share in the cloud if they alienated their partners and the partners focused on promoting the competition's products instead.

## Crayon's lack of moat

The nature of the reselling business limits the potential size of any moat Crayon can build but with that said, we think Crayon is in a very strong competitive position in the industry. Size matters in this industry and Crayon has been outgrowing competition by a large margin
for a long time and is now Microsoft's $5^{\text {th }}$ largest global partner. A position that comes with many perks like direct access to the best experts at Microsoft and great co-selling opportunities.

Crayons global reach is a significant advantage for the subset of customers that are multinational.

Crayon develops its own software that even competitors highlight has great capabilities although the user interface could be improved.

Crayon constantly invests in new capabilities which is important to stay relevant in the long term. Crayon has historically benefitted from a strong presence in the cloud business and are likely to benefit from new (mega)trends like AI and security.

Crayons strong competitive position in the industry is visible in industry sources like Gartner's magic quadrant, Crayons ability gain market share consistently over many years, and in the feedback we have received from vendors, competitors, and customers.

## Margin pressure

It is true that there is some structural margin pressure on the existing products. As products mature, all else being equal, the incentives for resellers as share of gross sales tends to decrease. This structural trend is being countered by the continuous introduction of new products where resellers, all else being equal, earn a higher share of sales.

In resellers' financial reports, this only shows up if they continue to disclose the old gross sales numbers from before the IFRS 15 change to accounting principles. Under the new accounting principles, reported revenue is only the resellers' share of total sales. Structurally we see no pressure on the margin's resellers can earn from their share of total sales. The resellers' incentives and costs are smaller for mature products and vice versa for new, innovative products. If the incentive for a product decreases, the resellers associated costs are also likely decreasing, resulting in little to no impact on the resellers margin, but a decrease in topline (gross profit).

We think Crayon has potential to significantly increase margins, but this increase is not driven by generally increasing margins across the board or any trends for the industry. We think Crayon's relatively new, high growth markets over time will narrow some of the margin gap to Crayon's mature markets, where they are well established and earn great margins today.

## Weakness in some geographies

Crayon is present in 46 countries so in any given quarter there are likely to be some positive and negative surprises. Recently the negative surprises have increased, most notable in APAC. Therefore, it is fair to say there is weakness in some geographies.

## Bad Q3 report.

Some argue Crayon's Q3 report was bad and the initial market reaction certainly indicated that was the case. However, when looking at the adjusted numbers, NWC actually improved
compared to the same quarter last year. The same is true for the margins, which when adjusted for the termination fee of a sponsorship agreement, increased compared to the same quarter last year. The termination fee is a real cost, but the timing is random. Organic growth reaccelerated from the previous quarter and the business in APAC and consulting recovered as promised by the management in the Q2 report.

## Optimistic guidance

We acknowledge Crayon's guidance looks optimistic. However, we do think the guidance is within the likely range of outcomes and historically Crayon has a good track record of delivering on the guidance.

In Appendix B, you can find a DCF we have made based on Crayon's explicit guidance for the next three years and a conservative version of Crayon more vague long term statements (high long term growth potential, similar margin potential in all regions). Again, it is important to highlight that the guidance looks optimistic, but the fair value of Crayon today based on the DCF, is 316 NOK per share, which is $293 \%$ higher than the current share price.

## Management

A few, but loud critics are accusing management of being dishonest, which is a very serious allegation.

Critics argue management is not correct when they say Rhipe adversely impacted Crayon's NWC because Rhipe's reported NWC almost was at the same level as Crayon's prior to the acquisition. We can say it is likely that management is correct, and the critics are wrong because of the differences in accounting principles.

Critics argue that management is not correct when they say organic growth is the reason the growth outlook for 2023 was upgrading at the Q2 financial report. When we do the math, we find both currency tailwind and strong organic growth likely contributed to the increased growth outlook.

Critics argue that management is being too optimistic when addressing the Philippine situation which we agree with to some extent. We do think management could improve their communication, especially when things do not go as planned. The most pronounced example of this are the Philippines, but communication on NWC and cashflow could also be better. We have recently observed significant improvements on both issues which is great and indicates the management team is able and willing to learn and improve, a trait that is very important to us. The management team is not perfect, but we generally have a favorable view of them and see no indications of dishonesty.

Through the share and share option ownership we find that the management and the board have aligned interests with shareholders as their exposure to Crayon is substantial.

The co-founders, Jens Rugseth and Rune Syversen, are still present as member of the board and as Chairman of the board and continue to hold substantial number of shares in Crayon through their company, Karbon Invest. Their exposure in total amounts to $5,4 \%$ of the share capital.

As for the management team both Jon Birger Syvertsen, CSO (Strategy), and Bente Liberg, CHRO, hold substantial amounts of shares in Crayon. The ownership of Melissa Mulholland, CEO, and Brede Huser, CFO, is small but has increased in 2023 as both recently have been buying shares in the market along with other insiders. Management in general and Melissa in particular has a large indirect exposure from the share-based incentive program.

## Philippines

The overdue receivable with the Philippines' government is a real and serious issue. The origins can be traced back to a new value added tax (VAT) on software which reduced Crayons margin on the contract from -0,5\% to -7,5\%. Crayon was slightly overcompensated for new VAT by increased prices, leading to a margin of $+0,5 \%$ on the contract after the adjustment. Note that it is not uncommon to win large government contracts at very low margins because the upsell opportunities during the multiyear contracts are attractive. It is also worth noting Crayon's gross profit only includes the actual margin, thereby Crayon's growth is not artificially increased by low margin contracts. All appropriate procedures were not followed when the original contract was adjusted to compensate Crayon for the new VAT and allegedly Crayon should have been aware of the new VAT when the original contract was signed. Of the total overdue receivable of 45 MUSD, 37 MUSD are missing payments on the original contract and 8 MUSD relates to the adjustment.

The government institution responsible for procurement is called the Department of Budget and Management Procurement Services (PS-DBM), which has withheld all payment to Crayon since it was audited by the government authority known as the Philippines' Commission of Audit (CoA). The audit was initiated after the political power shifted in the 2022 presidential election and is not specific to Crayon but covers PS-DBM broadly.

CoA released its "Procurement Service Annual Audit Report 2022 - Status of implementation of prior years' audit recommendations" in July $2023^{2}$ which does not question the payment of the 37 MUSD, but highlights that the correct procedures to adjust the contract were not followed. However, CoA does endorse the adjustment and instruct PS-DBM to coordinate with the National Economic and Development Authority as they should have done before adjusting the contract in the first place.

So far none of the overdue receivable has been paid and Crayon has made no bad debt provision for the receivable. We think it is very likely the 37 MUSD will be paid as it relates to the original contract and we think it is likely the 8 MUSD will also be paid.

The overdue receivable coincides with a tax audit of Crayon's Philippine subsidiary that revealed incorrect VAT reporting on payments, publicized by Crayon in their 2022 Q4 presentation slides. The incorrect reporting led to penalties of -30 MNOK and interest costs of -9 MNOK. Crayons reporting of the overdue receivable and the incorrect reporting of VAT were revealed in the same quarterly presentation and are not related according to Crayon.

[^1]We have not found evidence that suggests the two issues are related other than the pure coincidental timing. Reading all the publicly available material ${ }^{3}$ on the overdue receivable and taking the coincidental timing of the incorrect VAT into account, we think it is fair to assume Crayon's Philippine organization has made mistakes and are at least partly to blame. The audits mainly blame PS-DBM for not strictly following the correct procedures. We also think Crayon's communication regarding the overdue receivable has been too optimistic which has only aggravated the market's concerns regarding the issue.

Even if the overdue receivable is received in full, which we think is likely to happen, some form of discount is warranted for a period of time. If the receivable is never paid, it will eventually have to be written down by Crayon, resulting in an accounting loss. From a cashflow perspective, Crayon will not be affected, because they have never received the money in the first place. Valuing Crayon based on their latest financial reports where the 45 MUSD was already missing in addition to the missing 450 MNOK (from western government and Microsoft) which is confirmed received in Q4, we think a severe scenario is already fully discounted, including a significant intangible loss of reputation.

If the 37 MUSD is paid, which we think is very likely, this issue should be discounted significantly more lenient, which is likely to drive a significant positive market reaction.

## Market sentiment

We think the negative market sentiment towards Crayon has reached an extreme level where Crayon is almost assumed to be guilty until proven innocent. The market reaction to the Q3 financial results is an illustrative example. The reported numbers on margin and especially cashflow were bad but the adjusted numbers were good. Crayon's share price started trading down $20 \%$ on very heavy volume but ended higher at the end of the next trading day. This was also the first major reversal after having previously traded decidedly down on similar events in the past with little or no subsequent recovery.

We think the sentiment has been created by a combination of loud critics and a number of problems, and it has not been aided by Crayon's mediocre communication on the most tricky and complicated issues. The bear story begins with Crayon's terrible cashflow and aggressive accounting which at the surface can easily be verified by Crayon's own reported financial numbers. When Crayon has been 'proven wrong' on several severe issues (like impact of Rhipe, application of aggressive accounting, too optimistic messaging on cashflows), one naturally starts questioning everything else about Crayon. Suddenly otherwise irrelevant details become significant sources of concern and the sentiment turns increasingly negative. Eventually Crayon is assumed guilty until proven innocent and Crayon's communicative task becomes very difficult.

However, the very foundation of the bear case is fundamentally flawed. Crayon's NWC are at historic levels when adjusted to accurately show the underlying fundamental development. Cashflows are also fine and likely to be great going forward as. Crayon is a truly asset light business, which allows for great conversion of earnings into cash despite high organic

[^2]growth. Both NWC and cashflow have experienced a real decline since the peak of the COVID tailwind in 2020, but it is mainly a resultt of the subsequent headwind which is gone by now. Cashflows are also adversely impacted by some other minor factors of which the most significant is increased financial costs, driven by currency and increases in interest rates and net interest-bearing debt. Going forward the impact from financial costs is likely to improve.

When it comes to aggressive accounting the critics are technically right, but the reality is the exact opposite. Crayons reported financials look significantly worse after the change in accounting principles, and there are no indications of other than good intentions on Crayon's part. With the huge emphasis the market puts on NWC, which is significantly adversely impacted by the accounting changes, we think it is fair to assume Crayon's share price would be significantly higher if they did not apply 'aggressive' accounting principles.

With the notable exception of the Philippines, all the major concerns of the market are almost completely wrong and with that in mind, other minor concerns look much less dramatic.

## Are we biased?

We think not, but it is an important question and worth addressing because our view differs from the markets by a wide margin and we think the critics have become one-sided and biased. There is no easy way to avoid bias and we have owned shares in Crayon for a couple of years and are thus poised to be affected by confirmation bias, looking for evidence that support our current position and turning the blind eye to conflicting evidence. We try to address the risk of bias in a number of ways, starting with being very conscious of the risk of being biased in the first place. Mentally we try to ask the question, if we only had cash today, how would we build our portfolio from scratch? If the answer differs from our current portfolio we start trading to align our old portfolio with what we consider the optimal portfolio today. Historically we have not been afraid to sell significant investments that underperformed our fundamental expectations at a significant loss.

If we have reason to question our view of a company we try redo the entire research process from scratch and generally try to understand the bear case just as well as the bull case. Crayon is the company we have spent the most time researching, and trying to fully understand every detail of. We have talked to anyone who would talk to us and had a good chance of having relevant information including customers, competitors, vendors, investors, and other market participants including critics. The feedback has been quite good but not perfect. Competitors highlight Crayon's global reach and the great capability of internally developed software but being competitors, they usually like their own business even more. Customers are generally satisfied but would often like even better service and products, including a better user interface on Crayons internally developed software. The feedback from vendors has been the most positive, highlighting Crayons great capabilities within important areas like cloud, AI and security.

## Peer analysis

Crayon has continued to outgrow their most relevant peers on gross profit growth for the last twelve months both on reported growth and organic growth, as they have also done historically. Note that we exclude peers where hardware reselling makes up a large share of the business. The economic characteristics of reselling hardware and software are very different; hardware has worse NWC, lower growth, lower margin and is significantly more cyclical. Crayon largest, most direct and most comparable competitor is SoftwareOne, who has significantly lower growth rates than Crayon. Despite the current and historical outperformance SoftwareOne trades at a higher valuation than Crayon. We argue that the outperformance in growth rates favors a premium valuation of Crayon relative to the peer group.

Moreover, Crayon has a global presence and global operating capabilities, which only SoftwareOne in the peer analysis also has. This is an important feature for the competitiveness of their offering. Being global in its operations presents a larger growth potential in the future, which we argue is in favor of a premium valuation to the peer group.

Crayon has the lowest adjusted EBITDA-margin on the group, which reflects that some countries earn subpar margins compared to their more mature markets like the Nordics in which Crayon earns a $+30 \%$ adjusted EBITDA-margin, much more in line with the peer group. We argue that Crayon's adjusted EBITDA-margin gives a realistic picture of their earnings as of today, and beyond this has a significantly above average potential to increase margins as the high growth markets scale and become more mature. Thereby, likely closing some of the gap in margins to Crayon's mature- and high margin markets.

Table 1 - Peer analysis

| Companies | $\begin{aligned} & \text { MCAP } \\ & \text { (MNOK) } \end{aligned}$ | Enterprise value (MNOK) | Gross profit growth TTM | Organic Gross profit growth TTM* | EBITDA <br> Adjusted margin TTM | EV/EBITDA <br> Adjusted <br> TTM | $\begin{aligned} & \text { EV/EBITDA } \\ & \text { Adjusted } \\ & 2024 E \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bytes | 17.743 | 17.046 | 16,2\% | ~16,2\% | 43,8\% | 20,7 | 17,6 |
| Softcat | 33.076 | 31.421 | 14,2\% | ~14,2\% | 39,3\% | 15,8 | 14,6 |
| Softchoice | 8.246 | 9.186 | 3,1\% | 5,2\% | 29,1\% | 9,1 | 8,9 |
| SoftwareOne | 33.939 | 34.932 | 3,1\% | ~5-8\%** | 24,7\% | 12,1 | 9,9 |
| Crayon | 7.182 | 9.492 | 25,9\% | 19,1\% | 20,7\% | 10,1 | 7,5 |
| Average excl. Crayon Median excl. Crayon |  |  | 9,2\% | 10,5\% | 34,2\% | 14,4 | 12,7 |
|  |  |  | 8,7\% | 10,4\% | 34,2\% | 14,0 | 12,2 |

* Our estimates are based on reported currency effects, organic revenue growth and approximations from reported Key performance indicators (KPIs).
** This is our best guestimate as SoftwareOne has done many acquisitions in recent years and will not disclose organic growth. Additionally, SoftwareOne has stopped reporting on gross profit for 2023 Q2 and 2023 Q3, which is then estimated using approximations from reported KPIs

If Crayon should trade in line with peers, the share price would be 125 NOK based on EV/EBITDA Adjusted TTM and 153 NOK based on EV/EBITDA adjusted 2024. We think Crayon should trade at a premium to the peers.

If you want a more in-depth view of the historical performance of Crayon vs the peer group and a description of each peer then we refer to our research paper published in January 2023.

## Conclusion

To conclude, we think the bear case is almost completely wrong and the market's concerns widely exaggerated. When adjusted for non-recourse factoring, changes in accounting principles, the overdue payment from the Philippines and the payments received early in Q4, NWC has improved three quarters in a row and is in line with the historic level prior to the large but temporary COVID boost in 2020.

For cashflows the same story applies, because NWC by far is the largest driver of the volatility experienced in recent years. Another relatively minor but notable impact on cashflow comes from rising financial costs which are likely to reverse and improve going forward. On reported numbers we think Q3 2023 is likely to be the very bottom with significant improvements going forward.

Although technically correct, in reality the accusations and fear about aggressive accounting is not only wrong but exactly the opposite. Crayon's early recognition of revenue has little to no impact on earnings and a large negative impact on NWC, which the market cares deeply about. We think it is very likely Crayon's share price would be significantly higher today, if they had not made the good faith decision to change the accounting principles. While the profit and loss statement and balance sheet are affected by accounting principles the size and timing of cashflow are unaffected. The fundamental value is ultimately driven by cashflow and is unchanged, regardless of accounting principles.

The long overdue receivable from the Philippines is a serious problem and we think it is likely Crayon has made mistakes and are at least partly to blame. We also think the communication regarding the issue has been mediocre but ultimately, we think it is very likely the 37 MUSD will be paid and likely the 8 MUSD will be paid. We also think a severe scenario is already priced in because the 45 MUSD is already missing in the cashflow along with 450 MNOK that is confirmed received in Q4 and will appear in the next financial report.

We think Crayon has great growth potential benefitting from a general high underlying growth for software in addition to being very well positioned in (mega)trends like cloud, security and AI. We think Crayon has a significant potential to increase margin as the new high growth markets scale and become more mature. We think Crayon should be valued at a premium to the peer group which trades at the equivalent of 125-153 NOK per share and has a fighting chance of roughly meeting their own guidance, which translated into a DCF implies a value of 316 NOK per share.

## Appendix A

|  | 2017 | 2018 |  |  |  | 2019 |  |  |  | 2020 |  |  |  | 2021 |  |  |  | 2022 |  |  |  | 2023 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | EQ4 |
| Gross profit | 362 | 310 | 408 | 310 | 459 | 395 | 494 | 393 | 527 | 515 | 666 | 496 | 667 | 660 | 846 | 653 | 1.006 | 960 | 1.245 | 1.018 | 1.273 | 1.258 | 1.533 | 1.260 |  |
| Gross profit TTM | N/A | N/A | N/A | 1.389 | 1.486 | 1.572 | 1.658 | 1.741 | 1.809 | 1.929 | 2.101 | 2.204 | 2.345 | 2.490 | 2.669 | 2.826 | 3.165 | 3.464 | 3.864 | 4.229 | 4.496 | 4.793 | 5.081 | 5.323 |  |
| Reported <br> NWC | -405 | -137 | -182 | -81 | -343 | -65 | -718 | -25 | -338 | -395 | -1363 | -99 | -979 | -207 | -637 | -188 | -463 | -3 | -280 | 253 | -121 | -218 | -132 | 905 |  |
| Factoring | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 172 | 180 | 131 | 109 | 283 | 162 | 424 | 206 | 311 | 250 | 317 | 237 | Approx. Same |
| Western government | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -350 | 0 |
| Microsoft | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -100 | 0 |
| Philippines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -281 | -440 | -468 | -483 | -481 | 0 |
| Accounting change | 123 | 127 | 132 | 140 | 150 | 158 | 167 | 175 | 182 | 194 | 212 | 222 | 261 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adjusted NWC | -283 | -11 | -51 | 59 | -193 | 93 | -551 | 151 | -155 | -201 | -1151 | 124 | -546 | -27 | -506 | -79 | -180 | 159 | 144 | 178 | -250 | -436 | -298 | 211 |  |


|  | 2018 |  | 2019 |  |  |  | 2020 |  |  |  | 2021 |  |  |  | 2022 |  |  |  | 2023 |  |  |  | 2024 estimated |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q4 | Q3 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | EQ4 | EQ1 | EQ2 | EQ3 |
| Reported NWC / gross profit | -15\% | -13\% | -11\% | -18\% | -17\% | -16\% | -19\% | -25\% | -25\% | -30\% | -27\% | -18\% | -18\% | -12\% | -9\% | -6\% | -3\% | -1\% | -2\% | -1\% | 2\% | -0,2\% | -2,4\% | -4,6\% | -8,9\% |
| Factoring / gross profit | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 4\% | 5\% | 5\% | 6\% | 5\% | 6\% | 6\% | 6\% | 6\% | 5\% | 5\% | 5,2\% | 5,2\% | 5,2\% | 5,2\% |
| Western govern. / gross profit | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | -1,6\% | -1,6\% | -1,6\% | -1,6\% | 0,0\% |
| Microsoft / gross profit | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | -0,5\% | -0,5\% | -0,5\% | -0,5\% | 0,0\% |
| Philippines / gross profit | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | -2\% | -4\% | -6\% | -8\% | -9\% | -6,6\% | -4,4\% | -2,2\% | 0,0\% |
| Accounting change gross profit | 9\% | 9\% | 9\% | 9\% | 9\% | 9\% | 9\% | 9\% | 9\% | 9\% | 7\% | 5\% | 2\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| Adjusted NWC / gross profit | -5\% | -3\% | -1\% | -9\% | -7\% | -6\% | -10\% | -16\% | -16\% | -19\% | -16\% | -9\% | -10\% | -6\% | -4\% | 0\% | 2\% | 1\% | -2\% | -4\% | -3,6\% | -3,6\% | -3,6\% | -3,6\% | -3,6\% |

## Appendix B

| Discounted Cash Flow analysis |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Medium term guidance year 1-3 |  |  | Long term normalization |  |  |  |  |  |  |  |
| Mio. NOK | base year | year 1 | year 2 | year 3 | year 4 | year 5 | year 6 | year 7 | year 8 | year 9 | year 10 | Terminal Per. |
| Gross profit | 5.324 | 6.389 | 7.667 | 9.200 | 10.816 | 12.454 | 14.038 | 15.482 | 16.698 | 17.605 | 18.133 |  |
| Growth rate | 25,9\% | 20,0\% | 20,0\% | 20,0\% | 17,6\% | 15,1\% | 12,7\% | 10,3\% | 7,9\% | 5,4\% | 3,0\% | 3,0\% |
| Adj. EBITDA | 937 | 1.282 | 1.728 | 2.300 | 2.758 | 3.238 | 3.720 | 4.180 | 4.592 | 4.929 | 5.168 |  |
| Adj. EBITDA-margin | 17,6\% | 20,1\% | 22,5\% | 25,0\% | 25,5\% | 26,0\% | 26,5\% | 27,0\% | 27,5\% | 28,0\% | 28,5\% | 28,5\% |
| Adjustments | -137 | -50 | -60 | -72 | -85 | -97 | -110 | -121 | -131 | -138 | -142 |  |
| IFRS 16 depreciation | -87 | -105 | -126 | -151 | -177 | -204 | -230 | -254 | -274 | -288 | -297 |  |
| IFRS 16 interest expense | -17 | -20 | -24 | -29 | -34 | -39 | -44 | -48 | -52 | -55 | -57 |  |
| Taxes | -41 | -216 | -306 | -423 | -509 | -600 | -692 | -780 | -860 | -926 | -974 |  |
| Cas hflow operations ex NWC (1) | 655 | 891 | 1.212 | 1.625 | 1.953 | 2.298 | 2.644 | 2.977 | 3.276 | 3.522 | 3.699 |  |
| Reported NWC | 905 | 0 | -575 | -1.380 | -1.622 | -1.868 | -2.106 | -2.322 | -2.505 | -2.641 | -2.720 |  |
| NWC/GP | 17,0\% | 0,0\% | -7,5\% | -15,0\% | -15,0\% | -15,0\% | -15,0\% | -15,0\% | -15,0\% | -15,0\% | -15,0\% |  |
| Cashflow from - $\triangle$ NWC (2) | -747 | 905 | 575 | 805 | 242 | 246 | 238 | 217 | 182 | 136 | 79 | 0 |
| CAPEX (3) | -153 | -125 | -125 | -125 | -147 | -169 | -191 | -210 | -227 | -239 | -246 |  |
| Free cashflow (1) $+(2)+(3)$ | -245 | 1.671 | 1.662 | 2.305 | 2.049 | 2.374 | 2.691 | 2.983 | 3.231 | 3.419 | 3.531 | 49.318 |
| WACC/ discount factor $=10 \%$ | 1,00 | 0,90 | 0,81 | 0,73 | 0,66 | 0,59 | 0,53 | 0,48 | 0,43 | 0,39 | 0,35 | 0,35 |
| NPV free cashflow |  | 1.504 | 1.346 | 1.681 | 1.344 | 1.402 | 1.430 | 1.427 | 1.391 | 1.325 | 1.231 | 17.196 |


| Free cashflow value 1-10 yr. | 14.080 |
| :--- | :--- |
| Terminal value | 17.196 |
| Enterprise Value | $\mathbf{3 1 . 2 7 7}$ |


| (-) Net interest bearing debt | 2310 |
| :--- | ---: |
| (-) minority interests | 35 |
| Value of equity | $\mathbf{2 8 . 9 3 2}$ |
| Number of shares (mio. \#) | 89,5 |
| Number of share options (mio. \#) | 2,1 |
| Number of shares fully diluted (mio.\#) | 91,6 |
| Intrinsic value per share | $\mathbf{3 1 5 , 9 4}$ |


| Share price | 80,35 |
| :--- | ---: |
| Upside | $293,2 \%$ |


[^0]:    ${ }^{1}$ https://www.mediuminvest.dk/2023/01/13/crayon-research-paper/

[^1]:    ${ }^{2}$ https://www.coa.gov.ph/reports/annual-audit-reports/aar-ngs/\#49-5823-department-of-budget-and-management-1685433461
    Procurement Service Annual Audit Report 2022 - Status of implementation of prior years' audit recommendations

[^2]:    ${ }^{3}$ https://www.coa.gov.ph/reports/annual-audit-reports/aar-ngs/\#49-5823-department-of-budget-and-management-1685433461
    2022-07-18 Procurement Service Management Letter 2021

