

Update: Report Q2 2022

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Crunchfish: Moving forward

- Bottom line stronger than expected in Q2 due to lower OPEX
- Two agreements signed with Asian computer vision players
- We maintain our valuation interval of SEK 41.60 – 66.20 per share

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Stock ticker: CFISH
Industry: Technology
Listed on: Nasdaq First North
Latest stock price (SEK): 12,80
Market cap (MSEK): 424
Enterprise Value (MSEK): 392
Total number of shares (M): 31,44
- of which free float (M): 17,80

VHCF fair value per share
DCF model SEK 41.60 - 66.20

Crunchfish AB
Address: Stora Varvsgatan 6A
211 19 Malmö
Webpage: crunchfish.com
CEO: Joachim Samuelsson

Main owners (30 Jun 2022)

	Capital (%)
Femari Invest AB	23,9
Corespring Invest AB	18,0
Paul Cronholm	3,5
Carlquist Holding AB	3,2
Mikael Kretz	2,3

Stock price history (SEK)



	-1m	-3m	-12m
Change (%)	12,8	-25,4	-51,7
52 wk range (Low/Hi) - SEK		10,31 - 30,10	

Source: Börsdata

Crunchfish's report for Q2 2022 showcased a revenue in line with expectations and a net loss that came in better than expected. Within Digital Cash, Crunchfish is awaiting final confirmation before entering the Reserve Bank of India's regulatory sandbox in a project that also involves two other Indian banks. Digital Cash has also been integrated into Sirius' payment solution, which facilitates banks' deployment of Digital Cash. As for Gesture Interaction, the interest in XR Skeleton Stereo has intensified during the quarter and two new agreements with Asian computer vision players have now been signed. We choose to maintain our valuation interval of SEK 41.60 – 66.20 per share.

The company reported total revenues of SEK 4.1 million in Q2, of which SEK 0.1 million were net sales, SEK 3.4 million capitalised development costs and SEK 0.5 million other operating income. Total operating costs (excluding depreciation and amortization) summed to SEK 9.2 million, which put EBITDA at SEK -5.1 million. Crunchfish's EBIT totalled SEK -6.8 million and the net result for the period came in at SEK -6.7 million, which is higher than Q2 2021's comparable result of SEK -8.6 million. The company exited the quarter with cash holdings of SEK 19.1 million.

Crunchfish continues its efforts to integrate the Digital Cash platform into the digital payments market in Asia. In the first quarter of 2022, a leading bank in India expressed interest in Crunchfish's Digital Cash online and offline payment solutions. The project moved forward in Q2 2022 as the Reserve Bank of India (RBI) requested innovations for offline payments from banks in India. Crunchfish's Digital Cash offline solution for retail payments was then presented to the RBI as a solution by the previously mentioned leading bank.

Table 1: Financial Overview

MSEK	2020	2021	2022e	2023e	2024e
Total revenues	23,2	20,3	16,8	39,2	149,9
Growth (%)	10%	-12%	-17%	133%	282%
EBITDA	-17,6	-29,2	-22,2	-12,7	67,2
EBITDA margin (%)	neg	neg	neg	neg	45%
EBT	-25,3	-38,5	-28,5	-20,3	58,3
Cash holdings	8,7	32,8	19,5	13,6	47,7
Total assets	44,3	64,2	59,2	69,1	127,7
Total equity	34,8	55,8	50,3	60,0	118,3
Solidity (%)	79%	87%	85%	87%	93%
P/E	neg	neg	neg	neg	7,3
ROE	neg	neg	neg	neg	49%
EV/EBIT (x)	neg	neg	neg	neg	6,7
EV/Sales (x)	16,9	19,2	23,3	10,0	2,6

Source: Västra Hamnen Corporate Finance

Awaiting RBI's regulatory sandbox approval

Crunchfish has during Q2 gone through RBI's three step process necessary in order to enter the RBI's regulatory sandbox. The sandbox offers an opportunity for Crunchfish to check the viability of the product and make appropriate modifications that could help its implementation into the market. During the final review, RBI suggested another bank should be involved to showcase offline payment between banks as well. The integration of another bank has started and Crunchfish is now awaiting final approval announcements from RBI. This project would provide Crunchfish with a solid use case for their solution which authenticates their Digital Cash offering.

Extending functionality with e-wallet provider

Another important project for Crunchfish is the collaboration with a leading e-wallet provider in India. After holding initial talks where Crunchfish presented their Digital Cash solution, the company's senior management concluded that they wanted to broaden the scope with additional use cases of Digital Cash. During the [web conference](#) held in connection with the report, CEO Joachim Samuelson explained that this could mean integrating functionality allowing offline payments to be saved within an app and then allow the transaction to go through as soon as the online connectivity is reached. It was also concluded that the implementation should be done with Crunchfish's Bluetooth interaction Proxilink instead of ultrasound to further enhance the customer experience of the product.

New Digital Cash features have been delivered

Crunchfish's collaboration with V-Key in Southeast Asia has also continued during the quarter. The collaboration led to a customer integration with one of the leading e-wallet providers in Vietnam during Q1, something we wrote about in our last [research update](#). Crunchfish's Digital Cash offline solution enables mobile-to-mobile-to-mobile payments in offline mode since the party who receives payment can immediately spend the received amount. Even though the progress has been slower than the company initially expected, new Digital Cash features were delivered during the quarter and are currently being tested and evaluated by the e-wallet provider.

Integration with Sirius has started

Another development that has occurred during the quarter within Digital Cash pertains to the announced integration with Sirius - a financial infrastructure provider based in Southeast Asia. Crunchfish has completed an integration of their Digital Cash solution into Sirius' Payment Ecosystem Solution. This means banks are not required to develop the backend functionality themselves and therefore facilitates banks' and payment service providers' deployment and integration of Digital Cash. The solution is planned to be presented to Sirius' existing customers in Asia and South America.

XR Skeleton Stereo suited to AR-technology

In our previous research update we also mentioned that Crunchfish's XR Skeleton Stereo was attracting plenty of interest. The XR Skeleton Stereo uses advanced software to analyze combined image streams from two cameras. Having two cameras with independent streams creates a large amount of data that is complex to handle. Crunchfish's software solves this complexity and allows for a wide field of view. The software can be integrated into AR glasses, where the wearer can reach out and touch virtual objects in their field of vision and experience things with a precision that mimics reality.

Two new agreements have been signed

That previously mentioned interest has now resulted in agreements with two leading Asian players within computer vision. A new commercial agreement with Lenovo was signed in May 2022, giving Lenovo the right to use XR Skeleton Stereo in AR glasses and smart glasses worldwide. Lenovo is since last year using Crunchfish's previous product generation software for their Daystar products and is now about to launch a new generation of AR-glasses with two cameras using XR Skeleton Stereo.

A similar agreement has been signed with Ximmerse, where Crunchfish's technology XR Skeleton and XR Skeleton Stereo will be integrated into Ximmerse's AR-glasses and

other mixed reality products. Ximmerse's product, RhinoX, has sold well historically and a new generation of the model using Crunchfish's software is currently being developed. This integration entails a 3-year agreement that includes an initial fee of USD 25 thousand and running royalty per produced unit for Crunchfish.

Automotive still interesting in the long-term

As for the other business area within Gesture Interaction, i.e. automotive, EU has previously introduced safety regulations that require gesture tracking as a prerequisite in driver monitoring systems for newly produced cars in 2026. Crunchfish's hand and body tracking software, FB Skeleton, holds an interesting future market opportunity as it is well-positioned to help monitor the safe handling of future vehicles. However, Samuelsson stated during the web conference that for now resources have been focused on other segments for the quarter. In the long-term though, we still believe this provides an interesting market opportunity for Crunchfish's Gesture Interaction software.

Lower OPEX than expected

Turning to the reported figures for the quarter, Table 2 below shows that total revenue came in at SEK 4.1 million, which is slightly below our forecast. As for OPEX, personnel costs were SEK 0.5 million lower than expected while the line-item other expenses showed a discrepancy of SEK 1.9 million. The reason for the latter can largely be attributed to our forecast for personnel costs being too high, as other expenses are interlinked with personnel costs.

Table 2: Estimates vs actual, Q2 2022

kSEK	Q2 '21	Q2 '22e	Q2 '22a	Diff
Net revenues	917	250	134	-116
Capitalised development cost	4 448	3 680	3 429	-251
Other revenues	504	602	530	-72
Total revenue	5 868	4 532	4 094	-438
Cost of goods	0	0	0	0
Personnel costs	-6 493	-5 857	-5 311	547
Other expenses	-5 284	-5 845	-3 917	1 928
Profit from affiliated companies	-380	0	-15	-15
EBITDA	-6 289	-7 170	-5 149	2 022
Amortisation and Depreciation	-1 953	-1 503	-1 664	-161
EBIT	-8 242	-8 674	-6 813	1 861
Other financial items, net	-388	0	64	64
EBT	-8 630	-8 674	-6 749	1 925
Net Profit	-8 630	-8 674	-6 749	1 925
Cash and Equivalents	1 385	20 668	19 055	-1 613
Total Equity	18 552	47 173	46 961	-212

Source: Västra Hamnen Corporate Finance

Tying up more cash in working capital

This in turn explains the discrepancies posted in terms of EBITDA and net profit. Cash holdings being SEK 1.6 million lower than our forecast can primarily be explained by the company tying up more cash in working capital and less cash from the employee warrant program compared to what we expected. Total equity, on the other hand, came in as expected.

We make minor short-term adjustments

We see little reason to make significant changes to our valuation model as a result of this report. Crunchfish's somewhat lower net sales means that we decrease our revenue forecast in the short-term, however we see no reason to change our long-term assumptions at this stage. Regarding OPEX, we lower both other expenses and personnel costs forecasts in the coming quarters to better align with the levels Crunchfish has posted in recent quarters. As for financing, our model still implies a need for a further capital injection, even after the execution of the warrant program that comes due in Q4 2022. We therefore maintain our forecast of a capital injection of SEK 30 million in 2023. However, the timing, magnitude and kind of financing is highly uncertain at this stage, and this solely represents our best estimate.

**We maintain our
valuation interval**

In summary, our long-term growth trajectory for the company remains intact and the minor short-term changes we make to our model bear no impact on our fair value estimate. We therefore maintain the valuation interval for Crunchfish of SEK 41.60 – 66.20 per share unchanged.

Income Statement - Annual Data

kSEK	2020	2021	2022e	2023e	2024e	2025e	2026e	2027e
Net revenues	10 883	3 957	801	22 631	132 885	248 386	422 683	769 312
Capitalised development cost	10 106	14 342	13 829	14 279	14 536	14 776	15 014	15 256
Other revenues	2 215	2 045	2 214	2 320	2 511	2 718	2 942	3 185
Total revenues	23 204	20 344	16 844	39 230	149 932	265 880	440 640	787 753
Cost of goods sold	-213	-211	0	0	0	0	0	0
Personnel costs	-20 965	-23 388	-21 360	-27 461	-41 407	-52 801	-67 329	-85 854
Other external costs	-16 936	-16 011	-16 173	-20 596	-35 196	-44 881	-57 229	-72 976
Other operating expenses	-48	-755	-1 502	-3 845	-6 128	-7 814	-9 965	-12 706
Profit from affiliated companies	-2 595	-9 186	-47	0	0	0	0	0
EBITDA	-17 553	-29 207	-22 238	-12 671	67 200	160 384	306 117	616 216
Amortisation & depreciation	-7 662	-7 661	-6 388	-7 617	-8 875	-9 943	-10 857	-11 645
EBIT	-25 216	-36 868	-28 625	-20 288	58 325	150 441	295 260	604 571
Financial items, net	-120	-1 600	103	0	0	0	0	0
EBT	-25 336	-38 468	-28 522	-20 288	58 325	150 441	295 260	604 571
Taxes	0	0	0	0	0	0	0	0
Net profit	-25 336	-38 468	-28 522	-20 288	58 325	150 441	295 260	604 571
Earnings per share (SEK)	-0,92	-1,26	-0,88	-0,63	1,81	4,67	9,16	18,75
Growth (%)								
Net revenues	-25,3%	-63,6%	-79,8%	2726,1%	487,2%	86,9%	70,2%	82,0%
EBITDA	na	na	na	na	na	138,7%	90,9%	101,3%
EBIT	na	na	na	na	na	157,9%	96,3%	104,8%
Net profit	na	na	na	na	na	157,9%	96,3%	104,8%
% of revenues (%)								
EBITDA margin	neg	neg	neg	neg	44,8%	60,3%	69,5%	78,2%
EBIT margin	neg	neg	neg	neg	38,9%	56,6%	67,0%	76,7%
EBT margin	neg	neg	neg	neg	38,9%	56,6%	67,0%	76,7%
Profit margin	neg	neg	neg	neg	38,9%	56,6%	67,0%	76,7%
Personnel costs	192,6%	591,1%	2667,4%	121,3%	31,2%	21,3%	15,9%	11,2%
Total OPEX	348,7%	1014,8%	4874,6%	229,3%	62,3%	42,5%	31,8%	22,3%
Profitability (%)								
ROE	neg	neg	neg	neg	49,3%	56,0%	52,4%	51,7%
ROIC	neg	neg	neg	neg	65,6%	133,5%	189,9%	269,2%

Source: Västra Hamnen Corporate Finance

Balance Sheet - Annual Data

kSEK	2020	2021	2022e	2023e	2024e	2025e	2026e	2027e
Inventories	0	0	0	0	0	0	0	0
Account receivable	3 048	771	263	9 218	27 866	42 145	72 131	123 579
Receivables fr affiliated comp	472	33	1 000	1 000	1 000	1 000	1 000	1 000
Prepaid costs & accrued inco	1 318	1 384	1 692	1 821	1 921	2 016	2 114	2 217
Other receivables	869	1 093	1 131	1 195	1 256	1 318	1 382	1 449
Cash and cash equivalents	8 668	32 756	19 482	13 579	47 744	179 246	440 546	990 248
Total current assets	14 374	36 037	23 568	26 814	79 787	225 725	517 173	1 118 493
Tangible assets	1 265	696	583	475	387	315	256	209
Intangible assets	20 829	27 323	34 938	41 708	47 457	52 362	56 578	60 236
Long-term receivables	5	0	0	0	0	0	0	0
Affiliated companies	7 823	137	90	90	90	90	90	90
Total fixed assets	29 921	28 155	35 610	42 272	47 934	52 767	56 924	60 535
Total assets	44 296	64 192	59 178	69 086	127 720	278 492	574 097	1 179 028
Accounts payable	2 381	1 104	2 169	2 182	2 192	2 202	2 211	2 222
Accrued cost & prepaid incon	4 611	4 188	4 764	5 059	5 314	5 573	5 844	6 127
Other liabilities	1 905	3 057	1 973	1 861	1 905	1 967	2 031	2 097
Loans	0	0	0	0	0	0	0	0
Total current liabilities	8 897	8 349	8 906	9 102	9 411	9 741	10 086	10 446
Total non-current liabilities	561	0	0	0	0	0	0	0
Total equity	34 838	55 843	50 272	59 984	118 309	268 751	564 011	1 168 582
Total equity and liabilities	44 295	64 192	59 178	69 086	127 720	278 492	574 097	1 179 028

Source: Västra Hamnen Corporate Finance

Cash flow statement

kSEK	2020	2021	2022e	2023e	2024e	2025e	2026e	2027e
Operating activities	-14 968	-20 952	-22 200	-12 671	67 200	160 384	306 117	616 216
Changes in working capital	2 027	1 566	244	-8 953	-18 499	-14 105	-29 803	-51 259
Investing activities	-15 151	-15 837	-13 889	-14 279	-14 536	-14 776	-15 014	-15 256
Financing activities	23 640	59 303	22 530	30 000	0	0	0	0
Cash flow for the period	-4 453	24 022	-13 374	-5 903	34 165	131 503	261 299	549 702
Beginning cash balance	-3 254	-7 767	16 321	3 047	-2 856	31 309	162 812	424 111
Adjustments	-60	65	100	0	0	0	0	0
Ending cash balance	-7 767	16 321	3 047	-2 856	31 309	162 812	424 111	973 813

Source: Västra Hamnen Corporate Finance

Income Statement - Quarterly Data

kSEK	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022e	Q4 2022e	Q1 2023e	Q2 2023e
Net revenues	1 056	883	216	134	150	300	661	3 484
Capitalised development cost	2 926	3 622	3 435	3 429	3 420	3 546	3 526	3 550
Other revenues	498	498	591	530	541	552	563	574
Total revenues	4 480	5 003	4 241	4 094	4 111	4 398	4 751	7 608
Cost of goods sold	0	-61	0	0	0	0	0	0
Personnel costs	-5 283	-5 812	-5 322	-5 311	-5 304	-5 424	-5 600	-6 176
Other external costs	-3 203	-3 457	-4 210	-3 917	-3 978	-4 068	-4 200	-4 632
Other operating expenses	-210	-472	0	0	-743	-759	-784	-865
Profit from affiliated companies	-702	-7 623	-32	-15	0	0	0	0
EBITDA	-4 918	-12 421	-5 323	-5 149	-5 914	-5 853	-5 834	-4 064
Amortisation & depreciation	-1 932	-1 784	-1 449	-1 664	-1 591	-1 683	-1 776	-1 864
EBIT	-6 850	-14 205	-6 772	-6 813	-7 505	-7 536	-7 610	-5 928
Financial items, net	-443	-574	39	64	0	0	0	0
EBT	-7 293	-14 779	-6 733	-6 749	-7 505	-7 536	-7 610	-5 928
Taxes	0	0	0	0	0	0	0	0
Net profit	-7 293	-14 779	-6 733	-6 749	-7 505	-7 536	-7 610	-5 928
Earnings per share (SEK)	-0,26	-0,42	-0,19	-0,21	-0,24	-0,24	-0,24	-0,18
Y-o-Y Growth (%)								
Net revenues	-64,5%	-75,7%	-80,4%	-85,3%	-85,8%	-66,0%	205,6%	2491,5%
EBITDA	na	na	na	na	na	na	na	na
EBIT	na	na	na	na	na	na	na	na
Net profit	na	na	na	na	na	na	na	na
% of revenues (%)								
EBITDA margin	neg	neg	neg	neg	neg	neg	neg	neg
EBIT margin	neg	neg	neg	neg	neg	neg	neg	neg
EBT margin	neg	neg	neg	neg	neg	neg	neg	neg
Profit margin	neg	neg	neg	neg	neg	neg	neg	neg
Personnel costs	500,3%	658,3%	2460,0%	3950,2%	3536,0%	1807,9%	847,0%	177,3%
Total OPEX	823,5%	1103,3%	4405,9%	6864,0%	6683,0%	3416,9%	1600,8%	335,0%
Profitability (%)								
ROE	neg	neg	neg	neg	neg	neg	neg	neg
ROIC	neg	neg	neg	neg	neg	neg	neg	neg

Source: Västra Hamnen Corporate Finance

Balance Sheet - Quarterly Data

kSEK	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022e	Q4 2022e	Q1 2023e	Q2 2023e
Inventories	0	0	0	0	0	0	0	0
Account receivable	841	771	581	543	132	263	507	2 673
Receivables fr affiliated comp	145	33	16	8	1 000	1 000	1 000	1 000
Prepaid costs & accrued inco	2 248	1 384	1 412	1 842	1 808	1 692	1 739	1 823
Other receivables	1 151	1 093	961	1 203	1 135	1 131	1 141	1 187
Cash and cash equivalents	6 028	32 756	23 583	19 055	10 762	19 482	9 692	29 866
Total current assets	10 412	36 037	26 552	22 650	14 836	23 568	14 079	36 549
Tangible assets	1 026	696	700	646	613	583	554	526
Intangible assets	25 626	27 323	29 364	31 183	33 044	34 938	36 717	38 431
Long-term receivables	0	0	0	0	0	0	0	0
Affiliated companies	7 759	137	104	90	90	90	90	90
Total fixed assets	34 411	28 155	30 168	31 919	33 747	35 610	37 361	39 047
Total assets	44 823	64 192	56 720	54 569	48 583	59 178	51 440	75 596
Accounts payable	797	1 104	1 298	1 893	2 181	2 169	2 174	2 182
Accrued cost & prepaid inco	4 970	4 188	4 726	4 782	4 806	4 764	4 913	4 961
Other liabilities	2 796	3 057	1 586	933	2 140	1 973	1 691	1 718
Loans	25 000	0	0	0	0	0	0	0
Total current liabilities	33 564	8 349	7 610	7 608	9 127	8 906	8 778	8 861
Total non-current liabilities	0	0	0	0	0	0	0	0
Total equity	11 260	55 843	49 111	46 961	39 456	50 272	42 662	66 735
Total equity and liabilities	44 823	64 192	56 720	54 569	48 583	59 178	51 440	75 596

Source: Västra Hamnen Corporate Finance

Cash flow statement

kSEK	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022e	Q4 2022e	Q1 2023e	Q2 2023e
Operating activities	-4 480	-4 926	-5 289	-5 145	-5 914	-5 853	-5 834	-4 064
Changes in working capital	-2 415	961	-361	-203	1 041	-233	-429	-2 213
Investing activities	-3 421	-3 622	-3 495	-3 429	-3 420	-3 546	-3 526	-3 550
Financing activities	14 943	34 306	-58	4 178	0	18 352	0	30 000
Cash flow for the period	4 627	26 718	-9 203	-4 598	-8 293	8 720	-9 790	20 173
Beginning cash balance	1 385	6 028	32 756	23 583	19 055	10 762	19 482	9 692
Adjustments	15	10	30	70	0	0	0	0
Ending cash balance	6 028	32 756	23 583	19 055	10 762	19 482	9 692	29 866

Source: Västra Hamnen Corporate Finance

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