

Crunchfish AB

An important but expected stamp of approval from RBI

Andreas Eriksson | 2023-12-14 08:00

After the clarifications regarding NPCI's UPI Lite X, RBI has now officially approved Crunchfish Digital Cash's technology in a newly released evaluation. This news triggered a +100% surge in the share on Tuesday, underpinning the potential we are seeing in the case. While a slight pullback is only natural, we maintain our forecast and our fair value of SEK 15-17 per share.

Certified by the Reserve Bank of India

On December 11th, the Reserve Bank of India (RBI) released its evaluation, concerning the regulatory sandbox pilot project for offline digital payments involving Crunchfish, HDFC Bank, and IDFC First Bank. The verdict was positive, with RBI approving Crunchfish Digital Cash for offline retail payments. Although Crunchfish had communicated this since the pilot concluded before the summer, the absence of an official RBI statement had raised some concerns, which have now be addressed. The statement provides Crunchfish Digital Cash with a quality stamp of approval, reducing the perceived risks among potential clients such as banks and payment service providers.

Closing in on a HDFC Bank-deal

Ever since the pilot was concluded, HDFC Bank has been promoting an [Offline Digital Payment service](#) on its website. This service allows customers to load INR 2000 (SEK 250) into an offline wallet and proceed with transactions up to INR 200 (SEK 25) in areas with limited or no internet connectivity. The recent statement from RBI is also referred to in financial media as [HDFC Bank's Offline Retail Payments](#). This does however leave some room for some uncertainty with regards to what HDFC Bank actually offers, and we still await the first commercial agreement between HDFC Bank and Crunchfish.

Pieces added to the Indian market puzzle

While we had already assumed the RBI pilot to be successful, obtaining an official statement from RBI marks an important step in terms of credibility. With it, Crunchfish should find it easier to navigate both ongoing and new commercial discussions. However, until we see some more commercial progress and details about earnings capacity, we maintain our forecast and fair value range of SEK 15–17 per share.

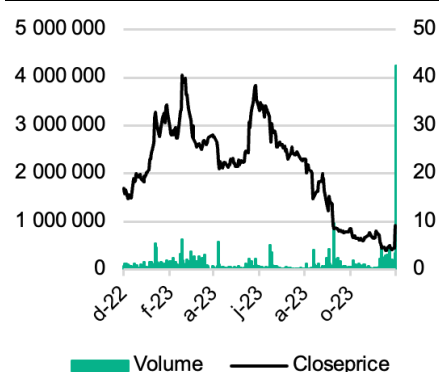
Financial Summary

MSEK	2021	2022	2023E	2024E	2025E
Revenue	4	6	2	10	30
EBITDA	-29	-18	-22	-30	-16
EBIT	-37	-24	-28	-37	-22
EPS Adjusted	-1,24	-0,73	-0,65	-0,84	-0,52
Sales Growth, %	-64%	56%	-76%	567%	200%
EBITDA Margin, %	-738%	-293%	-1457%	-303%	-53%
EBIT Margin, %	-932%	-392%	-1878%	-368%	-72%
EV/Sales	187,3	102,1	421,2	63,2	14,2
EV/EBITDA	-25,4	-34,9	-28,9	-20,8	-26,5
EV/EBIT	-20,1	-26,1	-22,4	-17,1	-19,5
P/E	-20,1	-27,5	-13,5	-10,3	-16,7

Source: Emergers

Crunchfish

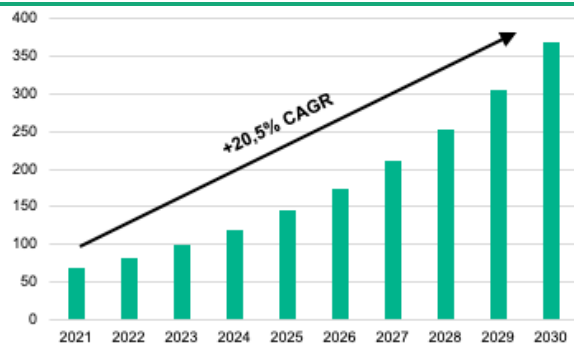
Fair Value, SEK	15 - 17
Current Price, SEK	7,60
Shares (M)	39,6
Market Capitalisation (MSEK)	301
Net Cash (MSEK)	5,8
Enterprise Value (MSEK)	307
Market	First North



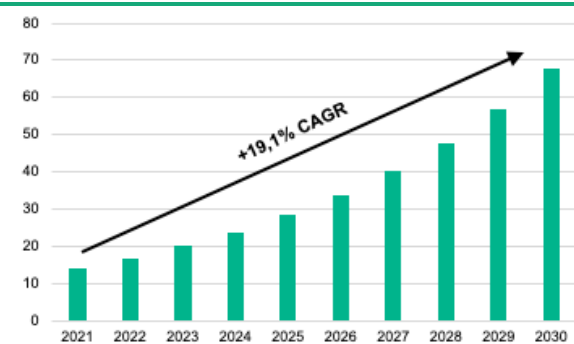
Crunchfish in brief

Crunchfish is a deep tech company founded in 2010. With an initial focus on developing applications for smartphones, and a soon realized expertise in gesture recognition, the journey towards commercializing the technology began. Today Crunchfish is based on two business verticals, Digital Cash (DC) and Gesture Interactions (GI), where the company is addressing two global markets in rapid growth.

Digital Payments Market Growth (USDbn)



Gesture Recognition Market Growth (USDbn)



Source: Grandviewresearch, Emergers

Addressing growing problems on a global scale

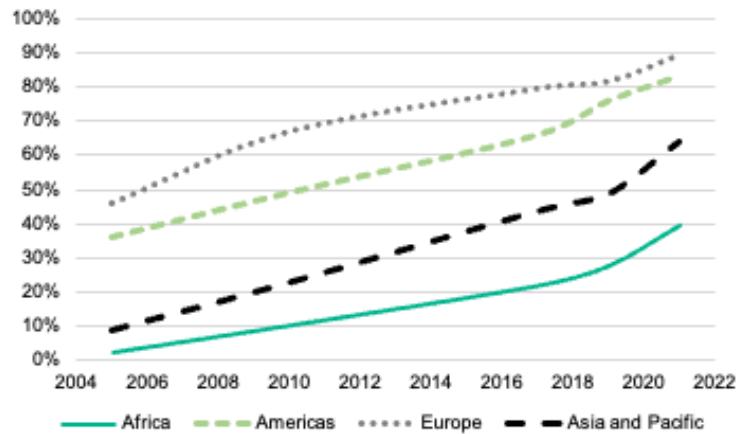
Offline digital payments

Even though internet connectivity is good throughout the developed world, it doesn't work everywhere, all the time. Payment rails, built on circuit-switched systems, only works if everything else supporting it works, making modern societies vulnerable to IT-attacks, system failures or even just downtime maintenance.

Connectivity in general is a major concern in other parts of the world. In India for example, only about 50% of the 1,4 billion citizens enjoy a stable connection. The same goes for a country like Nigeria, where 70% of the population lives without solid internet connection.

As internet connectivity varies a lot between regions, systems are prone to downtime, and internet connection has become a vital part of existing payment infrastructure, this adds up to a problem in urgent need of a solution. Despite the poor connectivity, India is the supreme leader in real-time payments, where over 74 billion transactions were made through UPI (India's version of Swish) in 2022 alone. This compares to the 4 billion transactions that has been made on Swedish Swish since the service launched in 2012.

Internet penetration by region (% of population)



Source: International Telecommunication Union, Emergers

Digital Cash

Crunchfish's main philosophy with regards to their vision to augment payments is to clearly separate the three steps of payments: reserve, pay and settle. There are two general reasons why payments fail today: no internet access and disruptions in banks' backend.

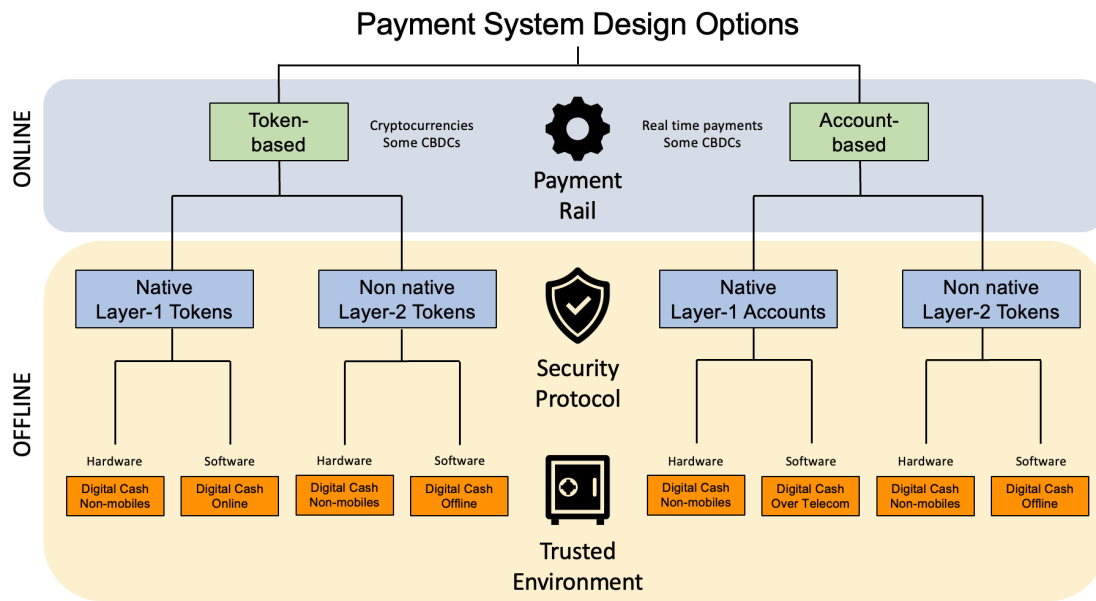
Digital Cash Online

The primary area of usage for DC Online is to unload the massive core banking systems that are handling our bank accounts today and provide a safety net so that we can make payments, regardless of whether the banks are having issues or not. The technology can be compared to the one used by cryptocurrencies, where additional layers of payment rails were created to increase transaction speed and capacity.

Digital Cash Offline

DC Offline addresses both the lack of internet access as well as the issues of backend disruptions. Crunchfish's platform can ensure that users are able to pay in full offline mode, rather than internet. By separating settlement from the other two steps, reserve and pay, Crunchfish guarantees successful payments in proximity or over the telecom network. Potential customers include Central Banks, commercial banks and payment service providers such as Amazon Pay, Google Pay and PhonePe.

Payment System Design Options



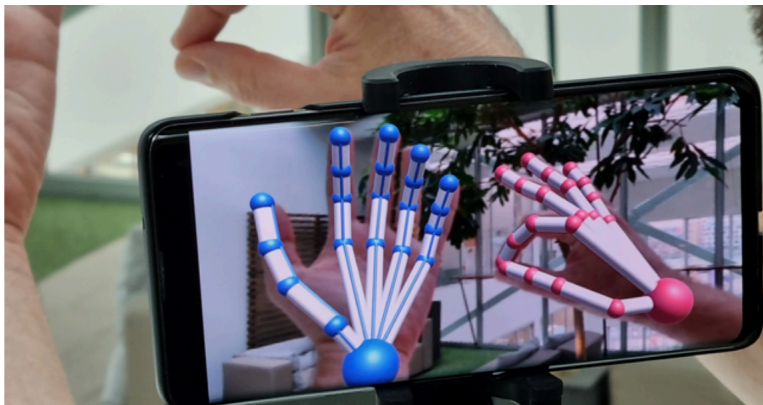
Source: Lipis Advisors, Emergers

Gesture interaction

Crunchfish Skeleton Platform

Crunchfish has an AI technology with an ability to detect and track both hand and body movement with extreme accuracy, making it suitable for consumer electronics (AR/VR) as well as for the automotive industry considering the new regulatory landscape. The platform tracks 21 detection points of each hand (in total 42 points simultaneously), creating a skeletal image. Today the platform consists of three different products, listed below, as well as camera rigs, neural networks and processes to create synthetic data.

Crunchfish Gesture Interaction



Source: Crunchfish

Forecasting an unproven business model

Digital Cash Offline

While the tech itself has a proven track record in test surroundings, and we believe that the need for Crunchfish's Digital Cash solution is global and in high demand, it is still an unproven business model. This means we can only speculate how, who and in what way Crunchfish will charge for their platform.

To quantify and estimate future revenues we have made the following assumptions in our **Base Case**:

- A model of yearly fees based on SEK 3 per user paid by the bank/payment solution provider
- Three sets of counterparts i.e. banks or payment solution providers with an average of 20/10/5 million users per counterpart
- A step-wise rollout of 10%/25%/50%/85% of the bank/payment solution providers users
- This means that these deals and the rollout will likely be made in tranches where the bank buys a license for part of its retail customers.

With the assumption that Crunchfish manages to land a deal with HDFC Bank in 2023, and a rollout to one (1) big client, two (2) medium clients and two (2) small clients per year starting in 2024, this would amount to sales of SEK 82.5m in 2026 from DC Offline alone.

IDFC First Bank Commercial Agreement

On the 29th of June 2023 Crunchfish signed their first commercial agreement for its Digital Cash Offline-solution with IDFC First Bank. The first release to the bank's customers is planned for late Q3, and the initial use case will be to enable offline UPI payments over the telecom network.

The 3-year license includes a first trench of users, out of a maximum of seven. Should IDFC Bank decide they want to offer the service to more of its customers, additional licenses will have to be purchased.

Gesture Interaction

We believe that the single most important trigger for Crunchfish's GI-vertical to kick in is for major players like Apple or Samsung to release their first line of AR/VR-products. This would create ripple effects across the industry where companies like Lenovo, Oppo etc. would follow suit, which would benefit Crunchfish as a sub-supplier to the Tier-2 and Tier-3 players.

Based on the most recent USD 500k-deal signed with OPPO, that covered only a small portion of Crunchfish's tech, there's reason to believe that sales will kick off once the AR/VR-industry is at a stage where Crunchfish's tech goes from a "nice to have" to a "need to have".

We see a similar potential for the Automotive vertical, where the regulatory changes will drive a significant increase in demand. While Crunchfish is well on their way, the implementation of their tech is still a bit too far away to include a meaningful scale-up in our model now.

SaaS business model with high scalability

As both of Crunchfish's verticals are fully based on software, the business is highly scalable by nature with high margins. With an annual OPEX currently at about SEK 40m per year (which the company expects to keep intact going forward), future profitability will be high should high volume deals be signed.

Valuation

In our DCF-model we use a discount factor (WACC) of 25% to take into account the high uncertainty regarding all future cash flows. With estimated sales of SEK 10m in 2024E, to reach SEK 83m in 2026E, our DCF and target multiple valuation approach support a fair value range of SEK 15-17 per share.

Risks

Unproven business model: Even though one Digital Cash commercial deal has been signed, the business model, earning capacity and rollout-pace are still highly uncertain.

Addressing a slow-moving market: Crunchfish's business is focused on critical financial infrastructure, such as payment systems. We believe that even though the technology works, an investor needs to keep in mind that these institutions are slow to change and that a rollout might take longer than expected.

Corporate Governance

CEO of Crunchfish AB Joachim Samuelsson has a Master of Science in industrial Engineering and Management from Linköping University. As a serial entrepreneur since 1996, Samuelsson has had successful engagements in ComOpt Ab, Actix Ltd and Biomain AB. Before that Samuelsson worked several years for Ericsson in international technical and marketing roles.

Chairman of the board Göran Linder has a Master of Science in Engineering from KTH Royal Institute of Technology in Stockholm. Linder also serves as CEO of Corespring New Technology AB and serves on the board in Powercell AB, Promore Pharma AB, Minesto AB and QCG Sweden AB.

CEO of Crunchfish Digital Cash AB Patrik Lindeberg has a Master of Science in Electrical Engineering from Lund University and National University of Singapore, bringing experience in commercial and technical areas of responsibility.

Founder and CTO Paul Cronholm has a master's degree in theoretical physics from Lund University within the field of complex computer simulations. Cronholm has more than 15 years of experience as a senior software designer and project manager in various projects to implement mobile internet around WAP, 3G and DVB-H.

Crunchfish

Income Statement

MSEK	2021	2022	2023E	2024E	2025E
Sales	4,0	6,2	1,5	10,0	30,0
Operating Costs	-49,3	-39,8	-40,0	-42,0	-46,2
EBITDA	-29,2	-18,1	-21,8	-30,3	-16,0
Depreciation	-7,7	-6,1	-6,3	-6,5	-6,7
Amortisation of Goodwill	0,0	0,0	0,0	0,0	1,0
EBIT	-36,9	-24,3	-28,2	-36,8	-21,7
Non-recurring Items	0,0	0,0	0,0	0,0	0,0
Associated Companies	0,0	0,0	0,0	0,0	0,0
Net Financial Items	-1,6	0,2	-0,3	-0,3	-0,3
Pre-tax Result	-38,5	-24,0	-28,4	-37,1	-22,0
Tax	0,0	0,0	0,0	0,0	0,0
Minority Interest	0,0	0,0	0,0	0,0	1,0
Net Result	-38,5	-24,0	-28,4	-37,1	-21,0

Capital Expenditure

	2021	2022	2023E	2024E	2025E
Capital Expenditure, Absolute	15,8	13,6	0,1	0,5	-1,5
As a Pct of Sales	400%	220%	5%	5%	-5%
Depreciation Multiple	2,1	2,2	0,0	0,1	-0,2

Key Ratios

Share Price: SEK 7,60

	2021	2022	2023E	2024E	2025E
Share Price at 31 Dec	25,00	20,00	7,60	7,60	7,60
Number of Shares (Millions)	30,93	33,04	39,65	39,65	39,65
Market Cap	773,1	660,8	301,3	301,3	301,3
Enterprise Value	740,9	631,9	294,6	325,7	343,4
EPS (Reported)	-1,24	-0,73	-0,72	-0,94	-0,58
EPS (Adjusted)	-1,24	-0,73	-0,72	-0,94	-0,58
CEPS	-1,24	-0,73	-0,72	-0,94	-0,58
P/CEPS	n.a.	n.a.	n.a.	n.a.	-13,1
Book Value/Share	1,8	1,8	0,8	-0,2	-0,8
P/BV	13,8	11,2	9,9	-44,7	-10,1
Dividend	0,00	0,00	0,00	0,00	0,00
Dividend Yield (%)	0,0	0,0	0,0	0,0	0,0
Dividend Payout Ratio (%)	0,0	0,0	0,0	0,0	0,0
EV/Sales	187,3	102,1	421,2	63,2	11,4
EV/EBITDA	-25,4	-34,9	-28,9	-20,8	-21,4
EV/EBIT	-20,1	-26,1	-22,4	-17,1	-15,8
P/E (Adjusted)	-20,1	-27,5	-10,6	-8,1	-13,1
Sales Growth, Y/Y (%)	-63,6	56,4	-75,8	566,7	200,0
EBIT Growth, Y/Y (%)	46,2	-34,2	16,1	30,8	-41,0
EPS Growth (Adjusted), Y/Y (%)	39,2	-41,5	-1,4	30,5	-38,0
EBITDA Margin (%)	-738,2	-292,8	-1456,6	-303,3	-53,4
EBIT Margin (%)	-931,8	-392,0	-1878,1	-368,5	-72,5
Return on Equity (%)	-84,8	-41,9	-63,8	-314,3	126,0
Tax Rate (%)	0,0	0,0	0,0	0,0	0,0

Financial Position

	2021	2022	2023E	2024E	2025E
Interest-Bearing Net Debt	-32	-29	-7	24	42
Net Debt/Equity	-0,6	-0,5	-0,2	-3,6	-1,4
Equity Ratio	0,9	0,9	1,0	6,7	2,2
Net Debt/EBITDA	1,1	1,6	0,3	-0,8	0,1

Source: Emergers, Company reports

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Johan Widmark | Tel: +46739196641 | Mail: johan@emergers.se
Andreas Eriksson | Tel: +46737307335 | Mail: andreas@emergers.se

Emergers
Incirrata AB
Enbacken 16
187 44 Täby
Sweden

Phone: 0739 – 19 66 41
Email: johan@emergers.se
Corp reg no: 556815-7837