crunchfish

INTERIM REPORT
Q1'2022

Augmenting big business

Crunchfish platforms for Digital Cash and Gesture Interaction are ready for prime time. Designed to augment products and services in digital payments and computer vision, rather than competing with them. We are preparing for our next phase when we plan to scale quickly by integrating our platforms with companies and partners with a strong market reach.

Augmenting Payments

Crunchfish has a bold ambition to take a global leadership position within payments. Our Digital Cash platform augments any form of payment and on all payment rails. Offline payment is the next frontier in digital payments and Crunchfish is in a pole position having filed for patents for more than ten Digital Cash innovations. It is exciting to see patents being granted to us, confirming our unique approach and gives us exclusivity for 20 years.

To spread the idea of augmenting payments we are launching an acceleration program for Fintech companies together with T-Hub, India's leading ecosystem innovation hub. The program will start with a set of roundtables identifying the direction of digital payments. The needs are there to increase efficiency and availability and in emerging markets and developing economies it is mainly driven by motivations of financial inclusion, which is delivered by the Crunchfish Digital Cash platform.

Augmenting CBDC

Central Banks continue to prepare for CBDC, Central Bank Digital Currency. We are in the process of responding to several Requests for Information. It is encouraging to see that the requirements are increasingly zooming in on cash-like features like offline payments, privacy, ease of use as well as financial inclusion. India has announced plans for CBDC but are wise in that they are carefully looking on the requirements for CBDC before deciding on technology. In parallel, the Reserve Bank of India are also driving other payments innovations in the market that provide big opportunities for Crunchfish Digital Cash as RBI are looking for solutions that have a significant impact for India and can be rolled out nationally.

Augmenting Interaction

As for Gesture Interaction, Crunchfish has over the past year delivered a Crunchfish Skeleton platform. Currently, the company has three products within this business segment: XR Skeleton, FB Skeleton and PS Skeleton. XR Skeleton captures hand gestures by tracking 21 points with millimeter accuracy for the AR/VR business, FB Skeleton tracks full body movements through 34 points on the body and PS Skeleton combines hand and full body tracking for public screens and the automotive industries.

I also want to highlight some recent developments that have been noticed by the big manufacturing companies as they look to augment their product offerings with state-of-the-art interaction. XR Skeleton Stereo, able to analyze streaming from two cameras simultaneously, is a great product example. There are also technological improvements that have a great impact on the performance of all products in the Skeleton platform. Image domain transfers which make the versatile Crunchfish Skeleton platform much more efficient as changes and addition of new training data can be done in days rather than months. The positive impact of from quantization has had a big impact on gesture interaction performance, which is important for applications for consumer AR as well as automotive industries, must also be mentioned.

In conclusion

Crunchfish continues to develop fast, and our platforms are attracting attention from big payment services, leading banks, central banks as well as big computer vision manufactures. 2022 is the year when we rise to shine as the drawing of Darwin's theory of evolution also portray. We are already well into the year, and I am happy to present such positive vibes in the first quarterly report.
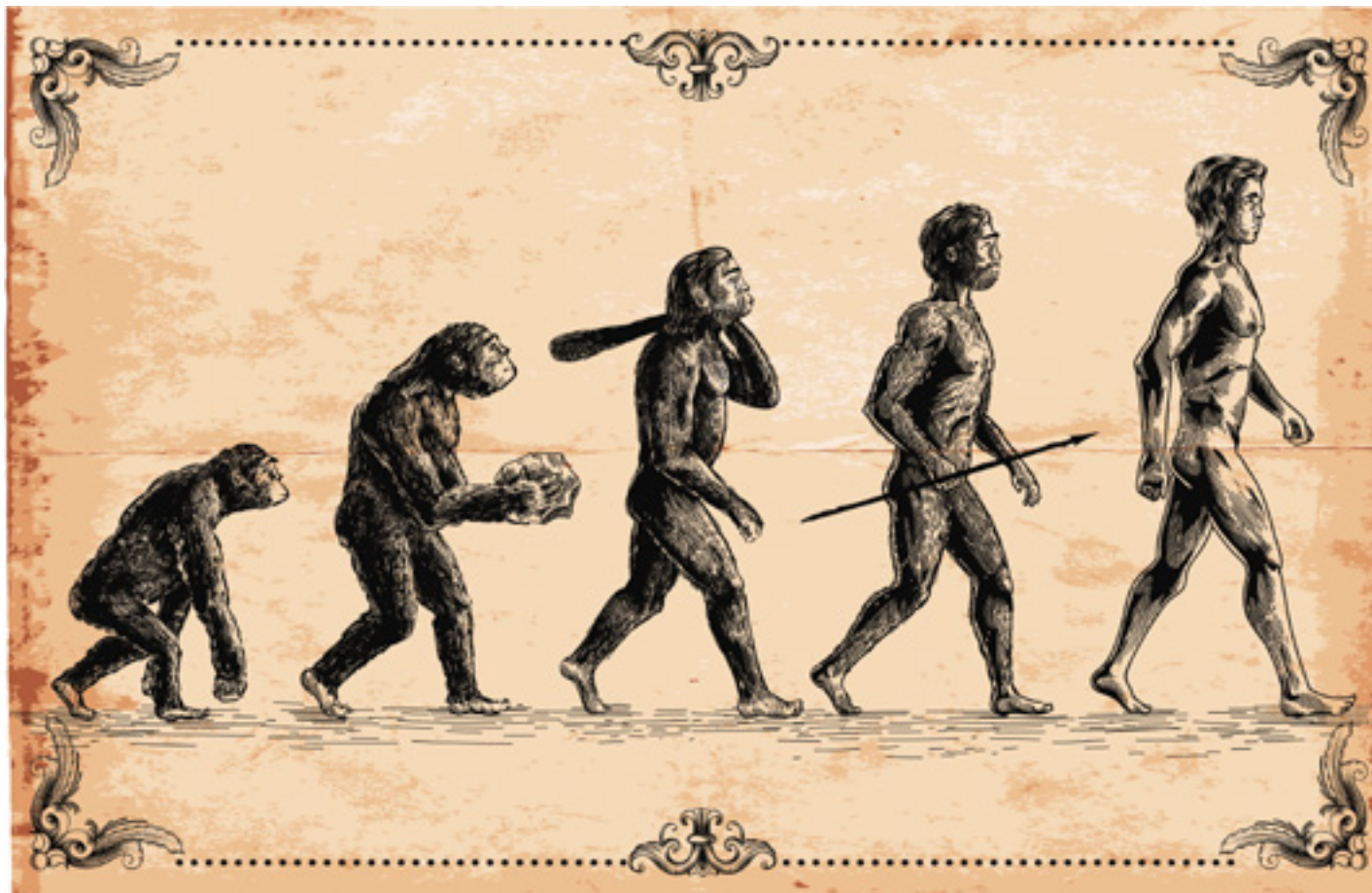
Significant news during and after Q1

Crunchfish group

25/4 2022

Crunchfish published annual report for 2021. The materials are only available in Swedish.

31/3 2022

Västra Hamnen Corporate Finance publishes an updated equity analysis on Crunchfish. As a service to the company's shareholders and with the purpose to increase transparency, Crunchfish has commissioned Västra Hamnen to conduct analysis of the company. The analysis includes an independent review of the company, markets, products, and competitors as well as a financial scenario that serves as a basis for a discounted cash flow estimation of a market cap of the company.

17/2 2022

Crunchfish published year-end report 2021 and **Crunchfish year-end report 2021 – an interview.**

Digital Cash

1/4 2022

Crunchfish made Digital Cash quantum safe. Crunchfish has applied for a patent that makes Digital Cash resistant to attacks by classical and quantum computers, keeping payment information secure even after large-scale quantum computers has been built.

4/3 2022

Crunchfish found a way to prevent fraudulent cloning and Digital Cash double spending. Crunchfish has applied for a patent for a logical lock that protects against fraudulent use by cloning of Trusted Applications, which significantly enhances the security of any Trusted Applications running in hardware based as well as software based secure execution environments. For instance, double spending may occur if a clone of the Digital Cash offline Trusted Application is generated and continues to operate offline. This patent pending innovation prevents such double spending with Digital Cash offline.

2/3 2022

Crunchfish announced early US Digital Cash patent. Crunchfish Digital Cash AB ("Crunchfish") has received a patent grant from the US Patent and Trademark Office (USPTO) regarding sharing content between devices over internet or cellular communications having first established proximity using short-range communications. This patent applies to any content such images and sounds, but also financial transaction data such as Digital Cash messages, financial tokens and cryptocurrencies. The patent application number is US 11 201 912 and is valid until February 2036. This application has previously been granted in Sweden.

16/2 2022

Crunchfish wrote down the value of Blippit AB shares on Crunchfish's balance sheet.

27/1 2022

Crunchfish received an International Preliminary Report on Patentability (IPRP) in Chapter II of the Patent Cooperation Treaty (PCT) for its initial Digital Cash patent application.

17/1 2022

Crunchfish interviewed by Finwire. Finwire interview of Crunchfish Group CEO Joachim Samuelsson is on the topic of Crunchfish Digital Cash – Future of Payments.

Gesture Interaction

7/4 2022

Crunchfish Gesture Interaction showcase image domain transfer tool for deep learning that enables the use of synthetic image data to generate annotations on real images – image domain transfer. Examples of image domains are different camera sensors such as color, greyscale and Infrared cameras. The new tool is part of a comprehensive image data management system that includes all steps from creating synthetic image data to transfer of real-life images for deep learning.
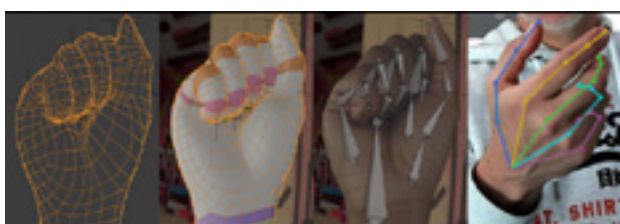
7/3 2022

Crunchfish launched XR Skeleton Stereo and interaction with two hands. Crunchfish is extremely proud to showcase a pre-release of the latest gesture solution – XR Skeleton Stereo – that enables high precision tracking and accuracy in all 3 dimensions due to the dual-camera input. The new solution also provides tracking of 42 points simultaneously (21 points on each hand) with high precision measurement of the distance between the camera sensors and each point of the hands.

1/2 2022

Finwire interviewed Joakim Nydemark, Crunchfish Gesture Interaction CEO is on the topic Deeply intuitive gestures.

12/1 2022

Crunchfish announced 12th Gesture Interaction patent. As gestures are visible to people around the user, a smart mechanism protecting the PIN code or password is needed, this innovation solves it by re-arranging the letters and numbers in the virtual display. In that way, the hand movements will be different every time a PIN code or password is entered, which provides the desired protection. The patent covers both locking and unlocking of a device using gesture interaction on a scrambled virtual display.

Webinars

January 2022

Crunchfish **presented the Survival Of The Fittest webinar series**, to be broadcasted every Friday at 8:00 a.m. CET during 2022. The series started on January 7th. The webinar structure consists in a short presentation about the main topic, followed by a Q&A session between the panelist and the audience.

22#01

Crunchfish Digital Cash is the future of payments on any payment form factor – mobiles, web, cards and wearables, regardless of payment rail – Instant, EMV, CBDC and crypto. Crunchfish Digital Cash platform was the topic **of the grand premiere of the Survival Of The Fittest webinar series**.

22#02

Joakim Nydemark, CEO of Crunchfish Gesture Interaction, talked about **Crunchfish's AI technology for gesture interaction** with exceptional performance, optimized for augmented and virtual reality (AR/VR), automotive and the next generation digital interfaces

22#03

Crunchfish group CEO Joachim Samuelsson presented **Crunchfish Digital Cash multiple benefits to any payment service**.

22#04

The webinar on Crunchfish Equity Analysis counted with the presence of Alf Riple, Chief Analyst at Västra Hamnen Corporate Finance.

February 2022

Crunchfish presented second month of the webinar series Survival Of The Fittest, with new moderator Johan Wester.

Crunchfish group CEO Joachim Samuelsson presented **Crunchfish Digital Cash for CBDC – with all desired features a Central Bank could ask for.**

On this webinar, Crunchfish Gesture Interaction CEO Joakim Nydemark focused on **Crunchfish Skeleton platform.**

Crunchfish Digital Cash with V-Key webinar was presented by V-Key's COO Raymond Lee, with some remarks over V-OS and the advantages of Digital Cash *offline* for mobile.

Crunchfish Investor Relations – Curious, Creative, Caring was in charge of IR Manager Erik Berggren, focussing on on the rules a listed company has to comply with and the additional activities Crunchfish is doing beyond requirements.

March 2022

Crunchfish launched third month of the Survival Of The Fittest webinar series

Crunchfish Digital Cash messages webinar – Messaging meets Payments. Crunchfish Digital Cash messages are the "secret sauce" behind the versatility of Crunchfish's ground-breaking solution within digital payments. This webinar explored how messaging meets payments. It was also announced that Crunchfish Digital Cash is sufficient to deliver CBDC. CBDC should be a public pull of Digital Cash rather than a push of CBDC from the central bank. Crunchfish's patent portfolio within Digital Cash was also discussed briefly.

Crunchfish Gesture Interaction Use Cases – AR/VR, Automotive and Public Screens. Crunchfish Gesture Interaction CEO Joakim Nydemark talked about how Crunchfish Gesture Interaction has multiple areas of use, including AR/VR, automotive and public screens.

Crunchfish's financial instruments, shares and warrants of series TO9, are traded on Nasdaq First North Growth Market. This webinar was focused on **Crunchfish Shares and Warrants**.

Crunchfish and ToneTag work together to explore Digital Cash opportunities using ToneTag's patented sound technology. ToneTag, a Bengaluru-based startup backed by Amazon and MasterCard, uses sound waves to enable contactless communication on any device.

April 2022

Crunchfish announced April weekly Survival Of The Fittest webinars.

Crunchfish Digital Cash is highly resistant to the risks associated with double spending, a major problem in offline payments. Digital Cash provides multiple protection mechanisms for the bearer instruments and the Digital Cash message carrying offline payments as well as in the backend.

Training data is a prerequisite for machine learning. **Crunchfish's highly automated process for generating training data** enables Crunchfish to come up with gesture interaction solutions extremely quickly in multiple computer vision scenarios.

Central Bank Digital Currency (CBDC) is being evaluated around the world where cash-like features such as ease of use, offline-, inclusive- and private- payments are key requirements. **Indian ecosystem innovation pioneer T-Hub, in collaboration with Crunchfish**, will arrange a unique accelerator program enabling fintech companies to create innovative CBDC products and services by exploiting Crunchfish Digital Cash.

Crunchfish DNA – Adaptive, Disruptive, Augmentative - webinar explained how, as a deep tech company, Crunchfish has a track record of being remarkably responsive to fast-moving industries by offering game-changing platforms.

Digital Cash
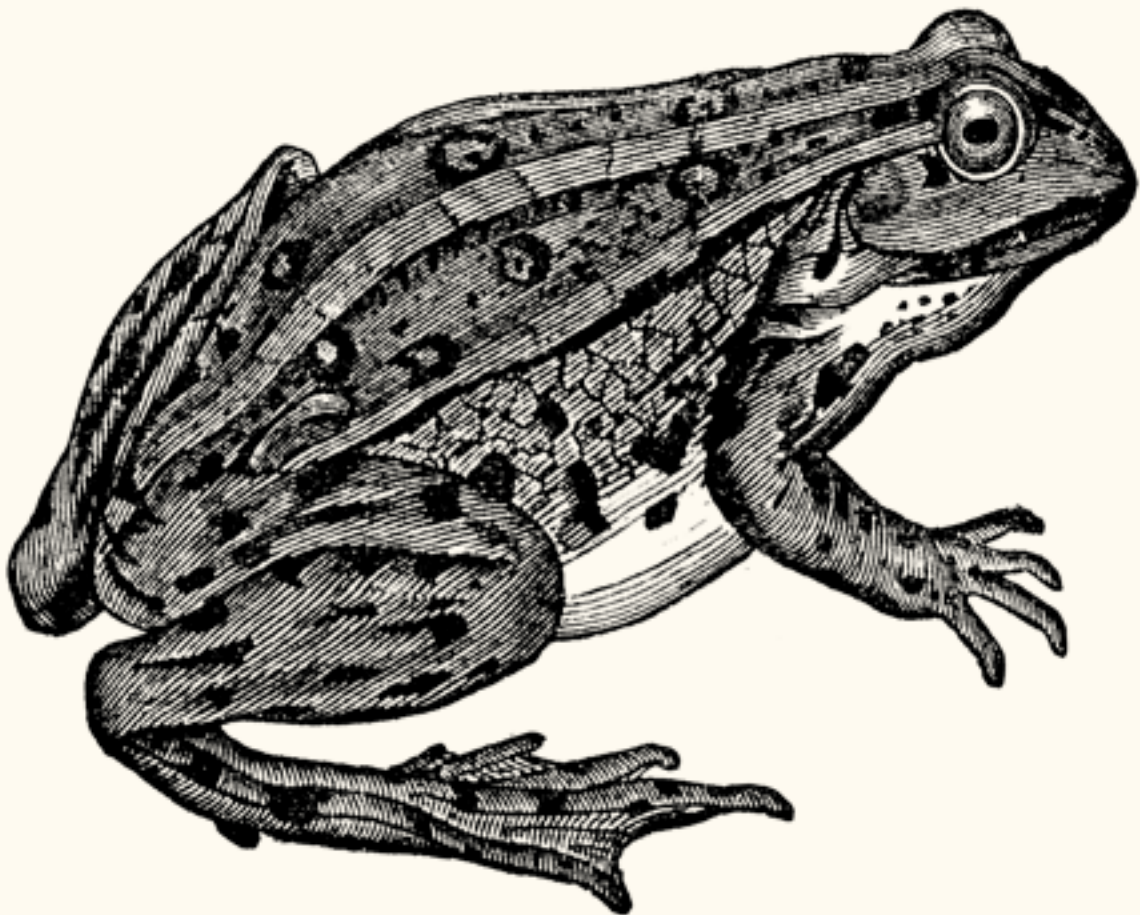
Market update

Crunchfish continues to focus sales and marketing efforts to India and Southeast Asia, where the Digital Cash platform is gaining a lot of interest.

ToneTag is a key partner for Crunchfish in India. The companies are working together on a project with one of the major e-wallets in India. The project will deliver a Digital Cash solution where offline payments are transferred in proximity with ToneTag's Ultrasound technology, creating a seamless user experience for both the payer and payee. A Proof-of-Concept solution was delivered to the customer end of March. The customer is now in the process of evaluating the solution. If the evaluation is successful, integration of the Digital Cash SDK into the e-wallet is planned to start in Q3.

The close collaboration with V-Key in Southeast Asia has resulted in a first customer engagement in the region. The Digital Cash offline SDK has been delivered for integration into one of the leading e-wallets in Vietnam. Based on initial feedback from the customer, new functionality is now being implemented into the Digital Cash SDK. The customer intends to use Proxilink, for offline interaction between the payer and payee.

Proxilink is a Crunchfish proximity solution based on Bluetooth which hereby is being added to the Digital Cash platform. Further, the customer also wants support for consecutive offline payments, i.e. the ability to use a received offline payment to pay forward, without settling online in between. This is a very interesting feature, that will benefit other e-wallet customers as well. As a first step Crunchfish has integrated the new functionality as part of the Digital Cash showcase app. The updated showcase app has been delivered to the customer and is now being evaluated.

Based on customer feedback, the functionality will also be included in the Digital Cash SDK.

Joint marketing activities with V-Key are gaining good traction in the Philippines and Indonesia. Crunchfish CEO Joachim Samuelsson participated in a Fintech webinar in the Philippines, hosted by V-Key and a local partner.

To further fuel the partnerships with ToneTag and V-Key, they have both participated in the webinar series Survival of the fittest. V-Key participated both in February and April, ToneTag presented in March.

During the first quarter a relation with T-Hub has been established. T-Hub is an innovation hub and ecosystem accelerator, based out of Hyderabad, India. Together T-Hub and Crunchfish will arrange a unique accelerator program enabling fintech companies to create innovative CBDC and payment products and services based on Crunchfish Digital Cash. The Digital Cash CBDC accelerator program was launched at a Survival of the fittest webinar in April.

Crunchfish in partnership with one of the major banks in India have together made an application to get access to the Reserve Bank of India (RBI) Regulatory Sandbox. The objective of the application is to be able to demonstrate to RBI a retail offline payment solution, based on Crunchfish Digital Cash and utilizing the bank's infrastructure and customers for pilots.

Augmenting CBDC

Crunchfish Digital Cash delivers on all key CBDC requirements - offline payments, privacy, inclusion and interoperability with existing payment services and rails. This is accomplished without digitizing the banknote, a fundamental mistake very commonly seen with CBDC systems.
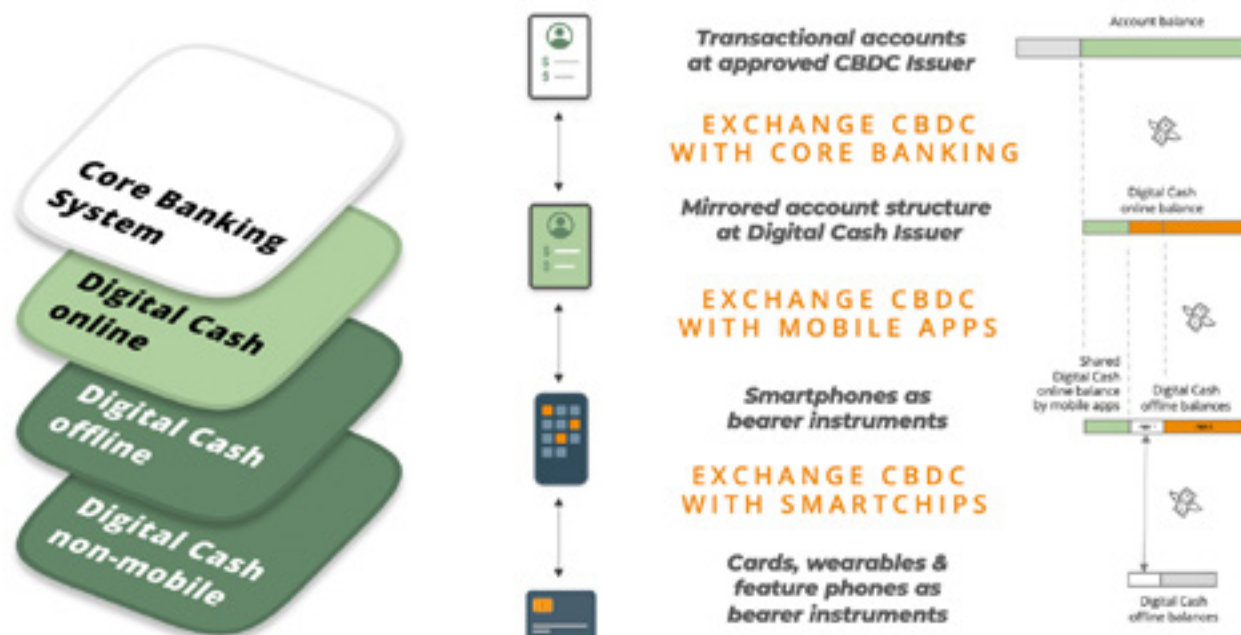
Digitization of cash is not a matter of making physical components such as banknotes and money presses digital. What really matters is to replicate cash as a means of payment in digital form. Without a digitized banknote there is no requirement for digital money minting by the central bank either, without any need for the banking community to upgrade their infrastructure to accommodate CBDC as existing payment rails are perfectly sufficient. This is elegantly achieved by Crunchfish Digital Cash with three distinct payment steps:

1. Exchange CBDC from the Core Banking System to a Digital Cash online account. Deposit same amount at the central bank. Exchange CBDC further as Digital Cash offline.

2. Pay with CBDC using a Digital Cash message initiated either from a Digital Cash online account or a Digital Cash offline storage.

3. Settle in CBDC from Digital Cash in the backend.

With Crunchfish Digital Cash as CBDC there is no requirement for the receiver to prepare before receiving Digital Cash. This provides similar inclusive behavior as receiving physical cash. In addition, privacy is elegantly achieved by allowing a receiver to onboard at a bank with minimal Know-Your-Customer (KYC) requirements.

Anti-money laundering can be accomplished by setting limits to how much money may be handled in such accounts. Crunchfish Digital Cash may also be held on cards and wearables, provide ease-of-use and access for anyone without the ability to use a smartphone, another very important CBDC requirement.

DIGITAL CASH EXCHANGES

Core Banking System

Digital Cash online

Digital Cash offline

Digital Cash non-mobile

Transactional accounts at approved CBDC Issuer

EXCHANGE CBDC WITH CORE BANKING

Mirrored account structure at Digital Cash Issuer

EXCHANGE CBDC WITH MOBILE APPS

Smartphones as bearer instruments

EXCHANGE CBDC WITH SMARTCHIPS

Cards, wearables & feature phones as bearer instruments

Account balance

Digital Cash online balance

Shared Digital Cash online balance by mobile apps | Digital Cash offline balances

Digital Cash offline balances

PAY & SETTLE WITH DIGITAL CASH

Core Banking System

Digital Cash online

Digital Cash offline

Digital Cash non-mobile

ONLINE CBDC PAYMENT

OFFLINE CBDC PAYMENT

Transactional accounts at Digital Cash Issuer

EXCHANGE CBDC WITH CORE BANKING

Mirrored account structure at Digital Cash Issuer

PAY ONLINE AND SETTLE WITHOUT CORE BANKING

Smartphones as bearer instruments

PAY OFFLINE WITHOUT NETWORK

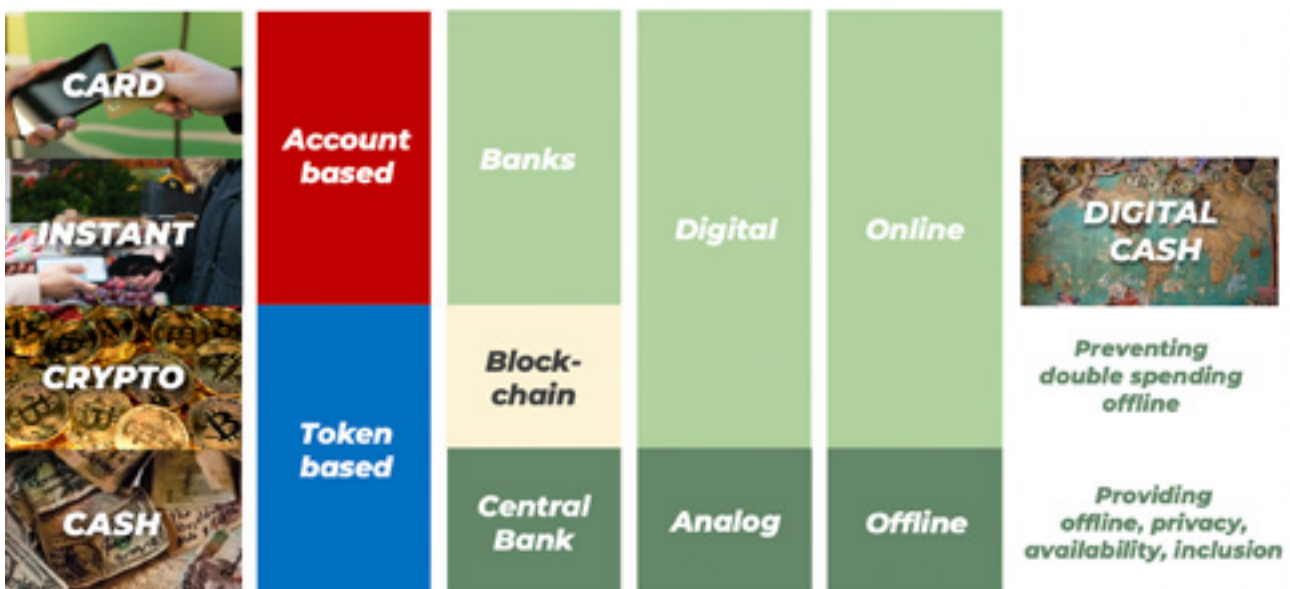Cards, wearables & feature phones as bearer instruments

Mitigating double-spending offline

Double-spending is a potential problem for digital cash if the same digital token is compromised or used multiple times. This is the equivalent of banknote counterfeiting. If digital cash should be viable means of payment offline, which really should be a given as it is a digital form of cash, then double-spending must be mitigated offline.

The common approaches for double-spending are either a central ledger that keeps track of if the digital token has been consumed before or a distributed ledger system where multiple servers collaborate to maintain the integrity of the ledger often by means of consensus algorithms. Central systems may for instance be handled by central banks, whereas distributed systems may involve approved financial institutions acting by proxy of the central bank or blockchains of transactions commonly used by cryptocurrency without any central node of trust. However, these solutions are not appropriate for offline payments, as they require central or distributed ledgers online.

Crunchfish Digital Cash mitigates double-spending offline with multiple security measures linked to the three distinct payment steps; 1) Reserve – 2) Pay – 3) Settle. Many of these security measures are patented by Crunchfish or its partners. Digital Cash security was in focus in the Survival of the fittest webinar 22#13 on double-spending and webinar 22#7 with V-key.

Digital Cash payment steps:	Digital Cash activities:	Digital Cash security:
1 *Reserve* *Requires high security on bearer devices with Digital Cash offline applications*	Money is reserved in banks or central payment system ledger on Digital Cash online accounts and may in turn be exchanged with Digital Cash offline storages on a smartphone, cards, wearable.	*a. Tamper resistant* *b. Logical lock (patent pending)* *c. Device fingerprinting* *d. Additional Factor Authorization* *e. Unauthorized use*
2 *Pay* *Requires high security of the Digital Cash message containing the payment*	Digital Cash is transferred to the payee either over standard payment rail or with a signed Digital Cash message.	*a. Transaction replay protection* *b. Payment authenticity* *c. Payment integrity* *d. Payment encryption* *e. Quantum attack protection (patent pending)*
3 *Settle* *Requires strong support in the backend to control Digital Cash applications and payments*	The payer or the payee initiate settlement that debits the payer's reserved amount and credits the payee's account.	*a. Reconciliation* *b. Restoration* *c. Behavioral biometrics* *d. Certificate revocation* *e. Certificate expiration*

1st anniversary of Digital Cash CPO

Magnus Lageson is product manager for Digital Cash at Crunchfish. A role he is very used to after having the same role at Swedish dominant instant payment service company Getswish (Swish) for many years. Magnus started at Crunchfish last spring and is warmed up.

What are you proud to have accomplished?

That we have succeeded in making Digital Cash a ready-to-deliver product. It has been fun to work closely with the customers and to have been able to quickly make adjustments to the product based on the customers' needs and priorities. Digital Cash has a very flexible and open architecture so it has not been difficult to adapt. The development team is not large but extremely competent and has been able to implement the changes requested quickly. It makes it fun to work as a product manager. In addition to the customer-oriented projects, we have also focused on improving the tests through automation and the introduction of new tools.

When I started, it was Digital Cash offline that was in focus.

Now we have broadened the offer to the Digital Cash platform and it was fun to be a co-inventor of our first Digital Cash online patent. But we have also integrated Digital Cash with Crunchfish's previous product generations. Many have heard of Blippit, which enables proximity-based interaction between mobile and store cash registers, but Proxilink, which connects a mobile directly to another mobile without any extra hardware, is less well known. It is a really good product that enables fast transfer between devices regardless of which mobile platform is used. Customers like the solution and we have already integrated it in some cases.

Where are we going with Digital Cash?

I see enormous potential in the future, when real-time systems are becoming more and more popular. This puts a lot of pressure on the banking systems that are built for batch transactions and not discrete transactions that must be handled extremely fast. With real-time systems come the requirements of 100% availability and it is difficult for banks to deliver. The picture with the poor donkey illustrates this well, I think.

CBDC, digital cash from Central banks, will also be real-time based and increase volumes even more. There is also the requirement for offline payment, which means that the

double-spending problem must be counteracted offline. This will be critical in the future and Digital Cash makes it possible which will drive implementation in the market.

Inclusion will be another important key concept. On the one hand it is about enabling payment in a simpler way than with a mobile phone. We have already demonstrated Digital Cash interaction between card and mobile in a project in India - also completely offline - which is a patent pending invention in the field. Another aspect is to be able to handle phones that are "jailbroken", ie hacked to, for example, no longer be locked to a certain operator. Here we have a patent-pending solution that enables these phones to use Digital Cash as well. It is important in Asia where this phenomenon is common. Inclusion is also about being able to receive payments without having registered for the payment service in advance. Here, Crunchfish has something completely unique with the Digital Cash messages and several of the company's granted Digital Cash patents are based on this principle.

Gesture Interaction

AI-technology for gesture control

Crunchfish develops AI technology that detects and tracks hands and body. The technology can be used in a number of areas but is optimized for AR/VR (augmented & virtual reality), the automotive industry and next generation of digital interfaces. During Q1 2022, work has continued to further develop the product portfolio, which has resulted in a pre-release of XR Skeleton Stereo and the launch of the pioneering auto-annotation tool - Crunchfish image domain transfer tool. Daniel Milesson, Director of Gesture R&D, left the company but both an interims replacement as well as successor are secured. Further, various versions of XR Skeleton Stereo were tested in close collaboration with strategic partners like Lenovo.

Gesture interaction

Gesture interaction is about controlling electronic devices without having to touch a screen or press physical buttons. Using a camera sensor and hardware with a processor, Crunchfish's gesture control technology makes it possible to interact from a distance by detecting and tracking the movements of the hands and body and then connecting them to various functions of a device.

Crunchfish Skeleton platform

Crunchfish Skeleton platform forms the basis for the continued development of existing and new products and have during the quarter been supplemented with additional functions and adaptations to specific contexts and areas of use. The platform itself consists of a number of different components such as inhouse developed tools, camera

Multi sensor support

Detection of objects

Gesture poses

ML training

Synthetic data generation

Annotation tools

Neural network design

Hand skeleton

Multi-hand interaction

Body skeleton

Hand & body skeleton

rigs, inhouse designed neural networks and processes for generating synthetic data.

XR Skeleton is the flagship hand tracking product of the platform. Then detection of the whole body was made possible by initially applying 21 points and then 34 points from head to toe, which created a full body tracking solution - FB Skeleton (still under development). PS Skeleton combines hand and body tracking, and can be used for interaction with public screens, in vehicles, for interaction with smart TVs etc. It makes it possible to keep track of the number of people in front of a screen, detect hands super-fast and also provide information about body positions and hand movements.

Crunchfish XR Skeleton

XR Skeleton is Crunchfish's fourth generation gesture control product. Previous generations are still marketed by Crunchfish. They focus on different use cases and involves other hardware. The first product - Selfie A3D - is based on standard image analysis and targets mobile devices and tablets with pose interaction.

In 2015, the prioritization became more towards AR/VR units, and the products that were then developed were trained and optimized for different AR glasses and VR units. For each new product, the technology was more and more built on neural networks and XR Skeleton is 100% based on neural networks. When the XR Skeleton was launched, it was the first product based on a completely new way of developing gesture control technology. XR Skeleton has a software architecture that creates a skeleton model of each hand with 21 points / coordinates in three dimensions.

XR Skeleton Stereo and Infrared

Crunchfish Skeleton platform and a sharp development team not only pave the way for many new solution areas but also show the Crunchfish Skeleton platform's great technical flexibility for advanced hand tracking. During the first quarter, the development of XR Skeleton Stereo continued and a

pre-release was launched in March 2022. The solution uses two camera sensors in parallel, with a distance between the cameras like the distance between human eyes, providing true three-dimensional image information of the distance between camera and every point tracked on the hand. The camera sensors also have a wide-angle perspective, which gives a large interaction space. The hands must be in the camera view (image) to be detected and tracked.

The development of the PS Skeleton to work with Infrared (IR) sensors was another project during Q1. Due to the lighting conditions in cars, trucks and airplanes, it is common to use IR sensors in these environments. The infrared light makes IR sensors better in dark environments compared to rgb sensors. The project aimed to adapt the PS Skeleton to also work with IR sensors. The result was successful and shows the platform's possibilities and flexibility.

Hand gestures can be divided into different categories focusing on different areas of use and chipsets. Skeleton is the top level of hand tracking and the most technically advanced. With this software it is possible to detect even the most complex gestures with 21 points tracked on each hand. The points correspond to fingertips and joints, where each point has coordinates in three dimensions which are provided with millimeter precision. Tracking of 21 points enables many different interaction solutions where poses can be easily added and each point on the hand is a possible touchpoint for virtual objects. Similar to this hand tracking architecture can also be used to detect and track the entire body.

Market and customers

Crunchfish has in Q1 focused on two market segments - AR/VR and automotive. In these segments there is a clear demand for hand & body tracking and gesture interaction due to lack of touch displays, physical buttons or requirements on hand tracking for safety reasons.

AR/VR

Smart glasses continue to evolve from devices with a small screen in front of one eye and a single camera sensor to more advanced devices that project the screen in front of both eyes and have multiple camera sensors. For the consumer market, AR glasses with a stereo camera configuration will probably become standard as it adds a lot to the AR experience. From a gesture control perspective, this provides conditions for both greater precision as well as interaction with both hands simultaneously. The recently pre-released software - Crunchfish XR Skeleton Stereo - will therefore be an important component in the company's portfolio.

In enterprise and industry, there is also great potential for AR/VR with warehouses / logistics, training and machine maintenance with remote expert support as some examples. What model of AR/VR devices that is used in different environments vary depending on the area of use, but common is that they all need gesture control for effective interaction and Crunchfish has several different software products that may be suitable depending on the type of hardware.

Automotive

The automotive industry is a growing market segment where hand & body tracking is starting to gain momentum. The increase is partly driven by the increase in the number of screens in vehicles, but above all by the forthcoming legal requirements regarding safety.

To help prevent accidents, car manufacturers are developing safety systems that keep track of the driver's condition and send alerts when a person shows signs of deviant behavior. These advanced systems include camera-based driver monitoring systems (DMSs) to detect inattention or fatigue of the driver and send an alert if the system detects that the driver appears distracted. There are also systems for monitoring passengers and other things in the vehicle that come in the next step. These are called OMS (Occupant Monitoring Systems) and will be able to provide additional information about the safety of a vehicle.

The EU will require that DMS (Driver Monitoring System) is integrated in all newly manufactured vehicles, including buses, trucks, and transports of dangerous goods. The new rules will be gradually implemented from 2022 for all new type-approved cars with a certain level of self-driving function in accordance with the European Council's safety rules and regulations.

In the next update of Euro NCAP's vehicle safety measurement system, driver monitoring will probably be one of the most important safety features to achieve the coveted five-star safety rating. This will set the bar for all car manufacturers in the European market.

To meet future requirements in future cars and trucks, new technology is required. Functions such as hand & body tracking and also detection of other objects such as a mobile phone in the hand, will be crucial to be able to analyze the behavior of drivers and passengers in a vehicle. This means great opportunities for Crunchfish's technology.

Infrared (IR) sensors are most often used to monitor the interior of a vehicle due to the varying lighting conditions. To meet this, Crunchfish's PS Skeleton has during Q1 been expanded with support for IR camera and can thus offer a competitive product to the automotive industry. With both hand tracking and body tracking, functions such as detection of drivers and passengers are made possible.

With the solution PS Skeleton optimized for RGB and IR camera sensors, Crunchfish has an excellent opportunity to take a position in the rapidly changing automotive industry by meeting the legal requirements that will be set for DMS. To use gestures to interact with entertainment systems in the front seat is another promising usecase in vehicles. As screens are becoming more common also in the back seat, the demand for gesture control will increase in this area to solve problems such as children in car seats not reaching the screen.

Customers and partners

An exciting project was carried out with a company in the Asia-Pacific region to develop a Proof-of-Concept (POC) with Crunchfish's latest gesture control technology. The project was completed in Q1 2022 and the goal was the to show the results at the Consumer Electronic Show (CES) in Las Vegas in January. Unfortunately, this did not become possible due to COVID, but it has instead been shown to customers in the automotive industry during Q1 and early Q2 2022.

The customer is based in the Asia-Pacific region and develops solutions for the AI technology industry with customers all over the world. In order to verify that the two companies'

technologies work together and that there is market interest, the parties have jointly developed a POC that, among other things, can enable hand & body tracking in cars and other vehicles. The companies' technologies have been integrated into a common solution within the framework of the project and Crunchfish has been able to charge for time and costs.

There is a high level of activity in the AR area, where everything from larger consumer electronics companies and to smaller niche manufacturers of AR glasses conducts research on and development of new AR products. Lenovo has previously entered into a license agreement for the use of Crunchfish's gesture control software in its DaystAR New G2 AR glasses. Lenovo intends to integrate Crunchfish's software to enable gesture-guided navigation in its AR applications and they are also a lead customer for the Crunchfish XR Skeleton Stereo solution.

Something that many AR companies see as important is the use of several camera sensors at the same time to create a perfect experience for the user, but also enable precision in depth and a large area of interaction. Early deliveries of Crunchfish XR Skeleton Stereo, which supports the use of two cameras simultaneously and 2-hands tracking, were pre-released in Q1 to a few close partners where Lenovo is a lead customer. Discussions are ongoing with several other major consumer electronics companies as well that are working on consumer AR-glasses with stereo sensor. The development of XR Skeleton Stereo is still ongoing and a final product release is planned for during 2022. Market interest in gesture-controlled interaction with smartTVs and other infotainment screens is also increasing and product evaluations of hand & body tracking solutions have been made related to both car, TV and aircraft entertainment systems in recent quarters.

Deep learning

Deep learning is about using different computer systems to mimic the behavior of the human brain and enable a computer to cluster data and make predictions with incredible accuracy. Deep learning is a subset of machine learning, which is essentially a neural network with three or more layers. Deep learning is found in many applications with artificial intelligence (AI), performs analytical tasks and is the basis for Crunchfish's gesture control technology. Enormous amounts of training data are fundamental for deep learning and given this need, the process of generating data is crucial for perfect results.

Training data

One of Crunchfish's strengths in the domain of gesture interaction is the control of every step of the development process. This includes tools, neural networks and the creation of training data. As the entire development of gesture control software is now based on machine learning and training of algorithms to detect and track hands and body, huge amounts of training data are required. Training data is in practice millions of images of hands and people with a great variety, to create as wide training material as possible.

To optimize the solution to be extremely efficient, fast and accurate, the training material needs to be created in different ways. One of the ways is that real people are filmed, after which, the hands are masked out and annotated with 21 points on each hand. When this is done, the object (hand) can be mapped to different background environments, lighting, shadows, colors, etc. to create as dynamic training material as possible.

Another way to create training data is to generate synthetic data. By doing a photogrammetry scan of a hand, a 3D model is created and used to generate synthetic image data. Once this is done, the hand is broken down into different layers, which creates full flexibility to change the hand and its motor skills. Skin color, age, size, finger length are just a few examples of the degrees of freedom that exist. For perfect results, however, a well-thought-out mix of all
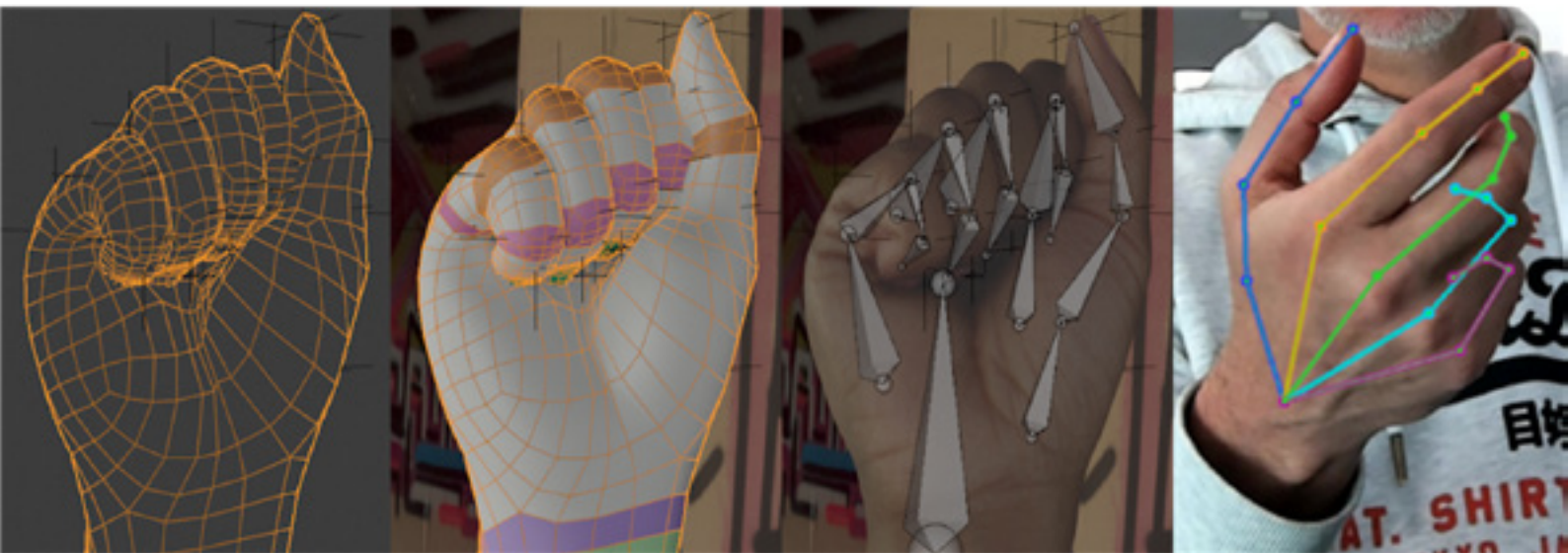
"With Crunchfish's image domain transfer tool we can substantially increase the speed of generating new data. With XR Skeleton Stereo, the volume of image data for deep learning and verification becomes even more important, why I am very proud of the results we see from our new tool", says Joakim Nydemark, CEO Crunchfish Gesture Interaction.

parameters is needed. One difficulty is how many images on a particular type of hand or situation that are required to make an impact among tens of millions of images.

Image domain transfer

An extremely time-consuming process when creating real image data, ie filming real hands to generate training data, is the work of annotation. Annotation means that a total of 21 points are placed on fingertips and joints on all hands in each image in an image stream from a camera. The work requires great accuracy because each incorrectly placed point has a negative impact on the results (algorithm). As the need for training data is millions of images, the production of training data manually does not scale and Crunchfish has therefore developed a way to automate the annotation.

On April 7, Crunchfish's Image domain transfer tool was announced. Image domain transfer is a term that involves changing the image domain of an image. This means that

image data collected with a specific type of camera sensor (such as black and white) can be altered to act as training data also for an infrared sensor. Or that synthetic data is used to enhance real data.

With the inhouse developed tool - Crunchfish image domain transfer tool - and by applying domain transfer logic, Crunchfish has created a process for automatic annotation of image data. In this way, large amounts of real image data can be automatically annotated in a fraction of the time compared to manual annotation. What previously took months to manually annotate, is now done in a few days.

Neural networks and new products

Neural networks (NN) enable computer programs to recognize patterns and solve problems in areas such as AI, machine learning and deep learning. By using NN in deep learning, a computer can learn to, for example, detect images and perform certain tasks by analyzing training data. In order for the neural network to be trained, image data must be annotated (labled). The object detection systems must then be fed with millions of tagged images of hands, bodies and so on to find visual patterns in the images that consistently resemble hands.

How neural networks are applied

Crunchfish's gesture control technology - based on the flagship product XR Skeleton - is using neural networks, which are mathematical models inspired by connections similar to those in the human brain. There are neural nodes in the brain and it is the connection between these nodes that is imitated in the computer-generated neural networks that are used to train the gesture control algorithms.

Because Crunchfish applies its neural networks to camera images, the networks are much inspired by the interaction between eyes and brain. More specifically, convolution principles are used which mimic how the retina processes what people see. In deep learning, a convolutional neural network (CNN) represents a type of multilayered neural network most used to analyze images. A CNN is structured in layers, where the task of each layer is to increase the probability of a "yes it is a hand" or "no it is not a hand" when

a hand or other object is to be detected in the image stream. This approach suits image processing very well where the task can be to detect hands in a stream of images.

Transformers is a different kind of neural network than CNN but is also used for hand and body tracking. It was originally used for language processing ("NLP") in language translation. When translating languages, there is often no exact translation for every word. NLP then uses various techniques such as semantic analysis to capture the meaning of the text. The method also provides support for analyzing combinations of words and meanings in a given context. In a similar way, this methodology can be applied to image analysis where, for example, the direction of movement of the hand and the change in the background are taken into account.

Deep learning is in many ways more art than science because experience and deep insight into how neural networks work characterizes how good the results will be. It is not enough to understand how a neural network works. Long experience is required to know how all weights and parameters should be adjusted and tuned to give the best results. Most academics focus on explaining the conceptual superiority of deep learning instead of referring to practical application. This is largely due to the fact that few engineers actively work with complex neural network layers to solve real problems. Crunchfish's extensive in-depth knowledge and expertise is therefore extremely valuable and distinguishes Crunchfish as a player in the gesture control business.

Next generation products

The hardware in future generations of AR/VR products will certainly be faster, smaller and more energy efficient. They will also support more advanced camera configurations, creating even more gesture interaction opportunities. For Crunchfish, therefore, support for multiple camera sensors (stereo camera configuration) that increases precision in all three dimensions, as well as tracking of two hands simultaneously will be important. For optimal performance, Crunchfish's products also need to be able to execute on custom processors such as Graphics Processing Unit (GPU) and Neural Processing Unit (NPU).

By combining the next generation's neural network with large amounts of data, simulated backgrounds, different light and shadow conditions, etc., the XR Skeleton will be able to meet even the toughest requirements from customers and end users. An initial official beta release of the XR Skeleton Stereo was made during Q1 to a close partner and in March 2022, an early product release was launched to some selected customers. The development will continue in the next quarters to come.

The development of combined solutions with XR Skeleton, PS Skeleton and the full body solution FB Skeleton will also continue to create conditions for reaching new business areas such as the automotive industry, public screens smartTVs etc. Support for other types of camera sensors such as infrared sensors will also be important to enable new future use cases.
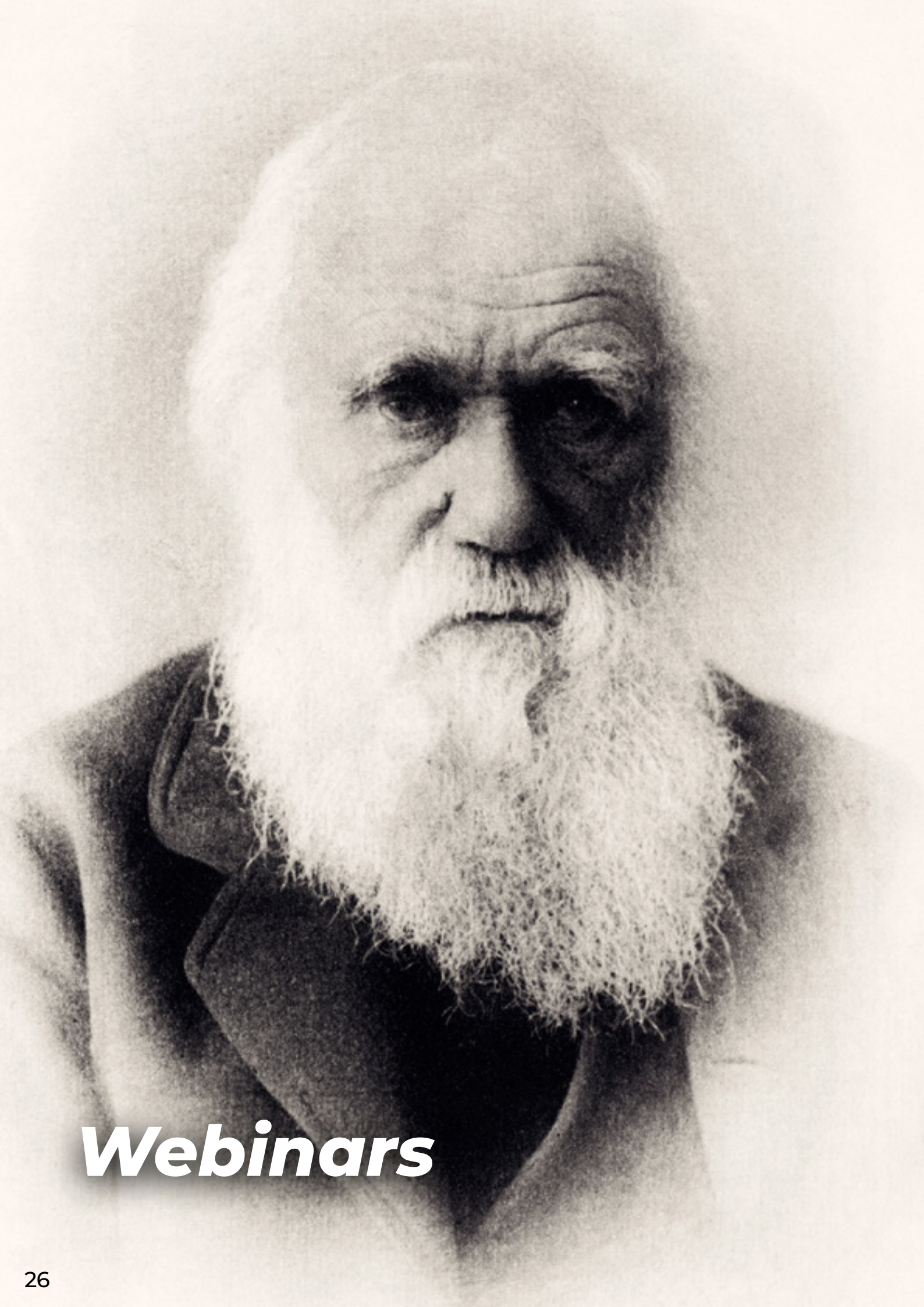
Webinars

Survival of the fittest webinar series

Crunchfish has launched a new series of webinars on the theme of Survival of the fittest. The series take place every Friday at 08:00 a.m. CET, with a premiere on January 7th, 2022. The webinars begin with a short presentation of a predetermined topic, followed by a moderator-led question time and an open forum with an expert panel. From February, the webinars have been moderated by Johan Wester, known among other things from the Swedish comedy program HippHipp. Every other webinar focuses on Digital Cash, and in between the theme is either Gesture Interaction or a broader Crunchfish topic.

Digital Cash

Digital Cash platform

Digital Cash with ToneTag

Digital Cash benefits

Digital Cash security

Digital Cash for CBDC

Digital Cash with T-Hub

Digital Cash with V-Key

Digital Cash patents

Digital Cash messages

Gesture Interaction

Crunchfish Group

**Gesture Interaction
introduction**

**Crunchfish
equity analysis**

**Gesture Interaction
Skeleton platform**

**Crunchfish
investor relations**

**Gesture Interaction
use cases**

**Crunchfish
shares and warrants**

**Gesture Interaction
training data**
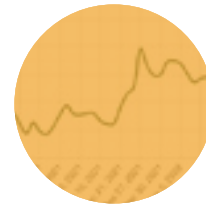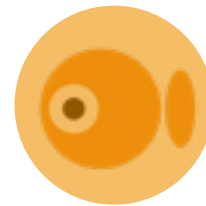
**Crunchfish
DNA**

Financials

Financial report

Sales and earnings for the quarter

Net sales amounted to SEK 216 (1,101) thousand for the first quarter and operating expenses amounted to SEK 11,013 (12,563) thousand. EBITDA for the period amounted to SEK -5,323 (-5,578) thousand. Loss before tax for the first quarter amounted to SEK -6,733 (-7,766) thousand and has been charged with amortization of intangible assets of SEK 1,393 (1,899) thousand and tangible fixed assets of SEK 56 (94) thousand.

Investments

During the first quarter, the Group invested SEK 3,435 (3,346) thousand in intangible fixed assets and SEK 60 (0) thousand in tangible fixed assets. Investments in associated companies amounted to SEK 0 (1,000) thousand.

Liquidity and financing

At the end of the first quarter the Group's cash and cash equivalents amounted to SEK 23 583 (11,534) thousand. Cash flow from operating activities during the first quarter amounted to SEK -5,650 (-2,899) thousand.

Associated companies

Blippit AB is an associated company and the holding is reported in the consolidated accounts using the equity method. The equity method means that the value of the shares in the associated company reported in the Group corresponds to the Group's share in the equity of the associated company. Crunchfish's share of the associated company's earnings is reported as a separate item in the consolidated income statement.

Staff

As of March 31, 2022, the number of employees was 19 (23).

Risks and uncertainties

A number of different risk factors could impact Crunchfish's operations and industry negatively. It is therefore very important to consider relevant risks in addition to the Company's growth opportunities. Relevant risks are presented in the prospectus issued by Crunchfish AB in October 2021 and the annual report for FY 2021, which can be found at crunchfish.com.

Related party transactions

Company management and administrative staff are employed in the parent company Crunchfish AB. Reported sales in the parent company consists of income from services rendered for management and administration of the company's two subsidiaries.

Crunchfish Digital Cash AB performs development and administrative services for the jointly owned company Blippit AB. Of the groups net sales for the first quarter, SEK 63 thousand (1,064) relates to fees invoiced to Blippit.

Sales and earnings for the quarter, parent company

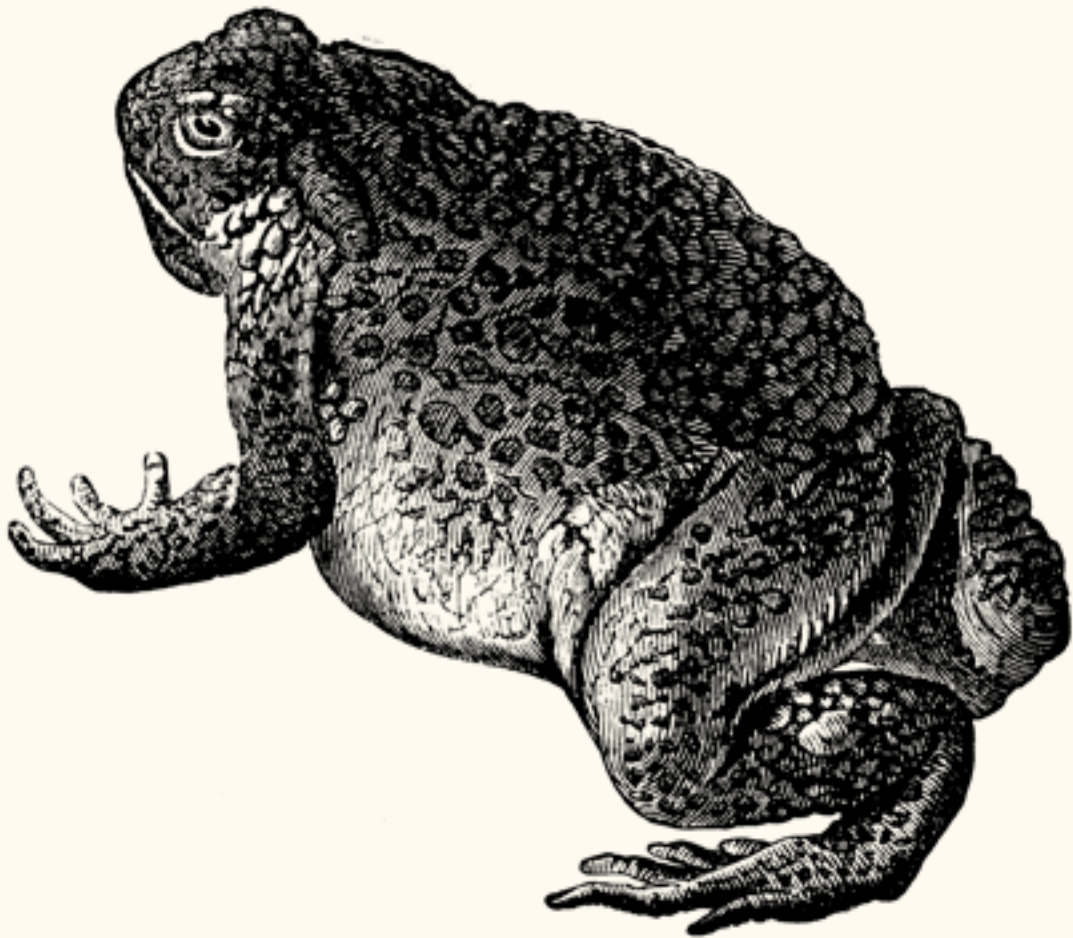The parent company's net sales amounted to SEK 4,676 (5,682) thousand for the first quarter and operating expenses to amounted to SEK -5 197 (-5 964) thousand. EBITDA for the period amounted to SEK 52 (255) thousand. During the first quarter, the parent company invested SEK 0 (0) thousand in intangible fixed assets and SEK 60 (0) thousand in tangible fixed assets.

Major shareholders for Crunchfish AB (publ) per March 31st 2022

Aktieägare	Antal aktier	Procent
Femari Invest AB (CEO Joachim Samuelsson & Petra Samuelsson)	7 500 000	24.25
Corespring Invest AB (Chairman Göran Linder)	5 668 837	18.33
Paul Cronholm (Founder & CTO)	1 093 800	3.54
Stephan Carlquist incl. company holdings	1 000 000	3.23
Mikael Kretz incl. family and company holdings	700 000	2.26
Håkan Paulsson incl. family and company holdings	650 000	2.10
Wilhelm Risberg	343 058	1.11
Claes Ohlsson incl. company holdings	342 088	1.11
Fredrik Lundgren	340 909	1.10
Granitor Invest AB	298 250	0.96
Total, ten largest shareholders	**17 916 586**	**58.00**
Other shareholders (approx. 6,000)	**12 988 356**	**42.00**
Total	**30 925 298**	**100.00%**

Share price development during 6 months
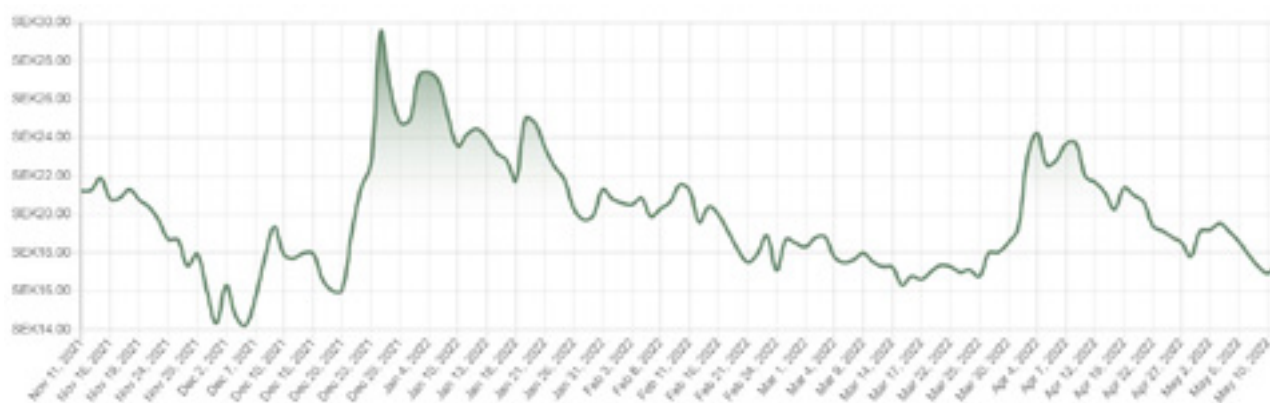
Financial calendar

Crunchfish AB publishes financial reports after each quarter. Upcoming reports are planned to be published according to the schedule below:

Half-year report 2022
August 25, 2022, 8:30 am CEST

Interim report January – September 2022
November 16, 2022, 8:30 am CET

Year-end report 2022
February 16, 2023, 8:30 am CET

Accounting principles

This report has been drafted according to the Annual accounts act (Årsredovisningslagen) and BFNAR 2012:1 (K3).

Annual General Meeting and Annual Report

The Annual General Meeting will be held on May 18th 2022, at 10:00 CET in Malmö. The Annual Report will be disclosed and available for download on the company's website three weeks before the AGM at the latest.

Auditor's review

This report has not been subject to review by the company's auditor.

Company information

Crunchfish AB (publ), corporate registration number 556804–6493, is a limited company seated in Malmö, Sweden.

Certified Adviser

Västra Hamnen Corporate Finance AB is the company's Certified Adviser.
E-mail: ca@vhcorp.se
Phone: +46 40 200 250

Further information

For further information, please contact:
Joachim Samuelsson, CEO
ir@crunchfish.com
Crunchfish AB (publ)
Stora Varvsgatan 6A
211 19 Malmö

Statement by the Board of Directors and the CEO

The Board of Directors and the CEO hereby assures that this interim report gives a fair overview of the company's operations, financial status, and result.
Malmö, May 18, 2022

The Board of Directors
Göran Linder (chairman)
Robert Ekström
Susanne Hannestad
Joachim Samuelsson
Malte Zaunders

This information is information that Crunchfish AB is obliged to publish in accordance to the EU Market Abuse Regulation. The information was provided by the contact person above for publication on May 18, 2022.
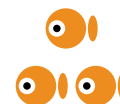
Group income statement (SEK)

	Q1 2022	Q1 2021	2021
Operating income			
Net sales	216 349	1 101 212	3 956 665
Own work capitalized	3 434 568	3 346 438	14 341 929
Other operating income	590 550	544 764	2 045 203
Total operating income	**4 241 467**	**4 992 414**	**20 343 797**
Operating expenses			
Goods for resale	0	-150 098	-210 688
Other external expenses	-4 209 908	-4 140 236	-16 010 862
Personnel expenses	-5 322 149	-5 799 425	-23 387 593
Depreciation of tangible and intangible fixed asset	-1 449 299	-1 992 637	-7 661 499
Other operating expenses	0	0	-755 275
Loss from participations in associated companies	-32 089	-481 051	-9 186 410
Total operating expenses	**-11 013 445**	**-12 563 447**	**-57 212 327**
Operating profit	**-6 771 978**	**-7 571 033**	**-36 868 530**
Financial items			
Other interest income and similar profit items	43 614	70 044	111 464
Interest expense and similar loss items	-4 473	-264 956	-1 711 092
Profit or loss from financial items	**39 141**	**-194 912**	**-1 599 628**
Profit or loss after financial items	**-6 732 837**	**-7 765 945**	**-38 468 158**
Profit or loss before tax	**-6 732 837**	**-7 765 945**	**-38 468 158**
Taxes			
Tax on income for the period	0	0	0
Profit or loss for the period/year	**-6 732 837**	**-7 765 945**	**-38 468 158**
Key figures			
EBITDA	-5 322 679	-5 578 396	-29 207 031
Earnings per share	-0,22	-0,27	-1,34
Number of shares, average	30 295 298	28 348 190	28 777 708
Number of shares at balance sheet date	30 925 298	28 348 190	30 925 298
Earnings per share after full dilution	-0,21	-0,26	-1,27
Number of shares after full dilution, average	32 338 098	29 606 490	30 176 883
Number of shares after full dilution, balance sheet date	32 338 098	29 660 990	32 338 098

Group balance sheet (SEK)

Assets	Mar 31, 2022	Mar 31, 2021	Dec 31, 2021
Fixed assets			
Intangible assets			
Capitalized expenses for development work	29 363 801	22 276 964	27 322 509
Total intangible fixed assets	**29 363 801**	**22 276 964**	**27 322 509**
Tangible fixed assets			
Equipment	700 256	1 170 268	696 077
Total tangible fixed assets	**700 256**	**1 170 268**	**696 077**
Financial assets			
Participation in associated companies	104 435	8 341 883	136 524
Other long-term receivables	0	4 900	0
Total financial assets	**104 435**	**8 346 783**	**136 524**
Total fixed assets	**30 168 492**	**31 794 015**	**28 155 110**
Current assets			
Current receivables			
Account receivables	580 505	478 804	771 340
Receivables from associated companies	15 688	545 856	33 281
Other receivables	960 982	717 612	1 092 731
Prepayments and accrued income	1 412 015	1 254 691	1 384 171
Total current receivables	**2 969 190**	**2 996 963**	**3 281 523**
Cash and bank balances			
Cash and bank balances	23 582 586	11 533 921	32 755 502
Total cash and bank balances	**23 582 586**	**11 533 921**	**32 755 502**
Total current assets	**26 551 776**	**14 530 884**	**36 037 025**
Total assets	**56 720 268**	**46 324 899**	**64 192 135**

Group balance sheet (SEK)

Equity and liabilites	Mar 31, 2022	Mar 31, 2021	Dec 31, 2021
Equity			
Equity attributable to parent company shareholders			
Share capital	1 422 564	1 304 017	1 422 564
Other contributed capital	249 140 087	189 895 143	249 140 087
Other capital including profit or loss for the period	-201 451 989	-164 016 940	-194 719 152
Total equity	**49 110 662**	**27 182 220**	**55 843 499**
Current liabilities			
Lease liabilities	502 405	721 052	560 584
Accounts payable	1 297 887	1 937 532	1 104 350
Current tax liability	0	74 928	4 273
Other current interest-bearing liabilities	0	10 000 000	0
Other liabilities	1 083 679	1 898 650	2 491 917
Accrued expenses and accrued income	4 725 635	4 510 517	4 187 512
Total current liabilities	**7 609 606**	**19 142 679**	**8 348 636**
Total equity and liabilities	**56 720 268**	**46 324 899**	**64 192 135**
Key Figures			
Equity-assets-ratio	86,6%	58,7%	87,0%
Debt-to-equity ratio	1,0%	39,4%	1,0%
Interest-bearing net debt	n/a	n/a	n/a

Changes in the group equity (SEK)

	Q1 2022	Q1 2021	2021
Equity at beginning of period/year	**55 843 499**	**34 838 074**	**34 838 074**
Share issues	0	0	64 427 700
Issue costs	0	0	-5 064 208
Warrant premiums	0	110 091	110 091
Profit or loss for the period/year	**-6 732 837**	**-7 765 945**	**-38 468 158**
Equity at end of period /year	**49 110 662**	**27 182 220**	**55 843 499**

Group cash flow statement (SEK)

	Q1 2022	Q1 2021	2021
Operating activities			
Operating profit or loss	-6 771 978	-7 571 033	-36 868 530
Adjustments for non-cash intems	1 481 388	2 473 688	17 584 557
Interest received etc.	13 539	0	12 484
Interest paid	-4 473	-264 956	-1 680 856
Income tax paid	0	0	0
Cash flow from operating activities before changes in working capital	**-5 281 524**	**-5 362 301**	**-20 952 345**
Cash flow from changes in working capital			
Decrease(+)/increase(-) in receivables	312 333	2 709 591	2 425 031
Decrease(-)/increase(+) in current liabilities	-680 851	-246 751	-858 418
Cash flow from operating activities	**-5 650 042**	**-2 899 461**	**-19 385 732**
Investing activities			
Investments in associated companies	0	-1 000 000	-1 500 000
Investments in technology development	-3 434 568	-3 346 438	-14 341 929
Investments in equipment	-60 202	0	0
Change in cash deposits	0	0	4 900
Cash flow from investing activities	**-3 494 770**	**-4 346 438**	**-15 837 029**
Financing activities			
Share issue	0	0	59 363 492
Loans from shareholders	0	10 000 000	0
Amortization of financial leasing agreements	-58 179	-68 006	-228 474
Warrant premiums paid	0	110 091	110 091
Cash flow from financing activities	**-58 179**	**10 042 085**	**59 245 109**
Change in cash and cash equivalents	-9 202 991	2 796 186	24 022 348
Cash and cash equivalents at beginning of period/year	32 755 502	8 667 692	8 667 692
Exchange rate difference in cash and cash equivalents	30 075	70 043	65 462
Cash and cash equivalents at end of period/year	**23 582 586**	**11 533 921**	**32 755 502**

Parent company income statment (SEK)

	Q1 2022	Q1 2021	2021
Operating income			
Net sales	4 675 871	5 682 223	20 932 097
Own work capitalized	0	0	0
Other operating income	567 395	528 890	2 023 356
Total operating income	**5 243 266**	**6 211 113**	**22 955 453**
Operating expenses			
Other external expenses	-2 631 969	-2 669 110	-10 125 722
Personnel expenses	-2 558 935	-3 286 888	-11 971 263
Depreciation of tangible and intangible fixed asset	-6 472	-8 161	-32 097
Other operating expenses	0	0	0
Total operating expenses	**-5 197 376**	**-5 964 159**	**-22 129 082**
Operating profit	**45 890**	**246 954**	**826 371**
Financial items			
Profit/loss from participation in group companies	0	0	-610 000
Other interest income and similar profit items	56 211	119 563	1 346 307
Interest expense and similar loss items	-1 808	-263 014	-1 701 717
Profit or loss from financial items	**54 403**	**-143 451**	**-965 410**
Profit or loss after financial items	**100 293**	**103 503**	**-139 039**
Profit or loss before tax	**100 293**	**103 503**	**-139 039**
Taxes			
Tax on income for the period	0	0	0
Profit or loss for the period/year	100 293	103 503	-139 039
Key figures			
EBITDA	52 362	255 115	858 468
Earnings per share	0.00	0.00	0.00
Number of shares, average	30 295 298	28 348 190	28 777 708
Number of shares at balance sheet date	30 925 298	28 348 190	30 295 298
Earnings per share after full dilution	0.00	0.00	0.00
Number of shares after full dilution, average	32 338 098	29 606 490	30 176 883
Number of shares after full dilution, balance sheet date	32 338 098	29 660 990	32 338 098

Parent company balance sheet (SEK)

Assets	Mar 31, 2022	Mar 31, 2021	Dec 31, 2021
Fixed assets			
Intangible assets			
Capitalized expenses for development work	0	10 972	756
Total intangible fixed assets	**0**	**10 972**	**756**
Tangible fixed assets			
Equipment	65 313	24 547	10 827
Total tangible fixed assets	**65 313**	**24 547**	**10 827**
Financial assets			
Participations in group companies	91 973 208	56 923 811	92 343 208
Receivables from group companies	9 640 767	9 511 369	0
Other long-term receivables	0	4 900	0
Total financial assets	**101 613 975**	**66 440 080**	**92 343 208**
Total fixed assets	**101 679 288**	**66 475 599**	**92 354 791**
Current assets			
Current receivables			
Account receivables	580 505	478 804	771 340
Other receivables	274 148	2 072	372 859
Prepayments and accrued income	1 262 017	1 239 451	1 193 027
Total current receivables	**2 116 670**	**1 720 327**	**2 337 226**
Cash and bank balances			
Cash and bank balances	22 908 437	10 062 804	32 560 241
Total cash and bank balances	**22 908 437**	**10 062 804**	**32 560 241**
Total current assets	**25 025 107**	**11 783 131**	**34 897 467**
Total assets	**126 704 395**	**78 258 730**	**127 252 258**

Parent company balance sheet (SEK)

Equity and liabilites	Mar 31, 2022	Mar 31, 2021	Dec 31, 2021
Equity			
Restricted equity			
Share capital	1 422 564	1 304 017	1 422 564
Fund development expenses	0	10 972	756
Total restricted equity	**1 422 564**	**1 314 989**	**1 423 320**
Unrestricted equity			
Profit brought forward	121 579 444	62 462 566	121 717 727
Profit or loss for the period/year	100 293	103 503	-139 039
Total unrestriced equity	**121 679 737**	**62 566 069**	**121 578 688**
Total equity	**123 102 301**	**63 881 058**	**123 002 008**
Current liabilities			
Accounts payable	469 296	675 682	631 360
Liabilities to group companies	0	0	283 336
Other current interest-bearing liabilities	0	10 000 000	0
Other liabilities	778 101	1 053 372	1 116 875
Accrued expenses and accrued income	2 354 697	2 648 618	2 218 679
Total current liabilities	**3 602 094**	**14 377 672**	**4 250 250**
Total equity and liabilities	**126 704 395**	**78 258 730**	**127 252 258**
Key Figures			
Equity-assets-ratio	97,2%	81,6%	96,7%
Debt-to-equity ratio	0,0%	15,7%	0,0%
Interest-bearing net debt	n/a	n/a	n/a

Changes in parent company equity (SEK)

	Q1 2022	Q1 2021	2021
Equity at beginning of period/year	**123 002 008**	**63 667 464**	**63 667 464**
Share issues	0	0	64 427 700
Issue costs	0	0	-5 064 208
Warrant premiums	0	110 091	110 091
Profit or loss for the period/year	**100 293**	**103 503**	**-139 039**
Equity at end of period /year	**123 102 301**	**63 881 058**	**123 002 008**

Parent company cash flow statement (SEK)

	Q1 2022	Q1 2021	2021
Operating activities			
Operating profit or loss	45 890	246 954	826 371
Adjustments for non-cash intems	6 472	8 161	32 097
Interest received etc.	30 647	54 260	1 272 652
Interest paid	-1 808	-263 014	-1 668 399
Income tax paid	0	0	0
Cash flow from operating activities before changes in working capital	**81 201**	**46 361**	**462 721**
Cash flow from changes in working capital			
Decrease(+)/increase(-) in receivables	220 556	2 402 206	1 785 307
Decrease(-)/increase(+) in current liabilities	-648 156	-731 130	-1 141 888
Cash flow from operating activities	**-346 399**	**1 717 437**	**1 106 140**
Investing activities			
Investments in equipment	-60 202	0	0
Acquisition of shares in subsidiaries	0	-25 000	-25 000
Repayment shareholder contributions	370 000	0	0
Loans provided to group companies	-9 640 767	-9 511 369	-35 745 861
Change in cash deposits	0	0	4 900
Cash flow from investing activities	**-9 330 969**	**-9 536 369**	**-35 765 961**
Financing activities			
Share issue	0	0	59 363 492
Loans from shareholders	0	10 000 000	0
Warrant premiums paid	0	0	0
Cash flow from financing activities	**0**	**10 000 000**	**59 363 492**
Change in cash and cash equivalents	-9 677 368	2 181 068	24 703 671
Cash and cash equivalents at beginning of period/year	32 560 241	7 816 432	7 816 432
Exchange rate difference in cash and cash equivalents	25 564	65 304	40 138
Cash and cash equivalents at end of period/year	**22 908 437**	**10 062 804**	**32 560 241**