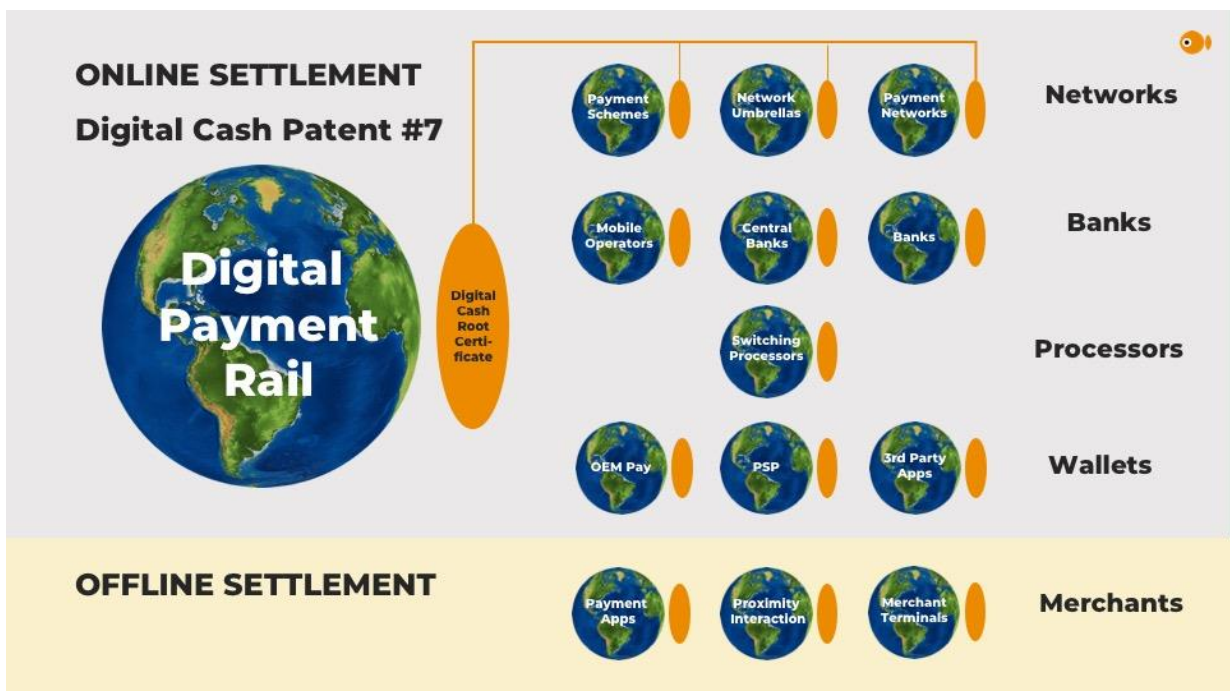


## Digital Cash enables global interoperability for payment services

Crunchfish is a technical pioneer within digital payment with Digital Cash that settles payments in two steps, first offline and then online. This enables payments that always work and can also be made with preserved integrity. Digital Cash is extremely flexible and complements all types of payment schemes, both on cards and mobiles. Crunchfish now enables internationally interoperable payment services by a global root certificate for Digital Cash.



*"With Digital Cash, Crunchfish establishes a new international rail for digital payments that enables different payment services even from different payment schemes to interact. This opens up new possibilities and has the potential to fundamentally change the ecosystem for digital payments", says Joachim Samuelsson, CEO of Crunchfish.*

Digital Cash is extremely flexible and complements all types of payment schemes on both cards and mobiles with initial settlement offline, before the payment is finally settled online. Crunchfish now announces a new patent-pending innovation with application number SE2150159-8 which makes payment services internationally interoperable, through the issuing of a global root certificate of the Digital Cash service. Payment in other countries also becomes possible through handling of exchange rates offline. This invention is extremely valuable from an international perspective, as payment schemes – cards, Real-Time Payments and CBDC – can be used over international borders. A national interoperability between different payment schemes is also important, especially to accelerate the implementation of Central Bank Digital Currency CBDC.

In the digital payment systems of today interoperability is hard to achieve due to payments being settled in a single online step. Crunchfish's patent pending two-tier settlement of payments, first offline and then online, is what enables smooth interoperability of the world's payment services. The payee verifies that the transaction is legitimate by being able to check the payer's certificate and thereby trust that the payment can be settled

online at a later stage. Crunchfish intends to establish a root certification for the Digital Cash service on a global basis that verifies offline payments when the payer and the payee use different payment services or different types of payment rails. An exchange table in the payment app means that the offline balance can also be debited for offline payments in foreign currency. Any currency differences are adjusted at the point of online settlement by debiting or crediting the payer's account.

One year ago Crunchfish announced [offline frictionless mobile payments](#) as a patent pending innovation, making mobile payments services far more robust by introducing the concept of Digital Cash using a two-tier settlement architecture, offline vs. online. Recently, Crunchfish also announced the possibility to implement [Digital Cash on cards](#). The solution leverages the fact that it is not important to the merchants if the transfer to their accounts occurs at the moment-of-payment or a little later, as long as there is trust that the transfer will occur. It is critical however, that the payment experience must be robust, smooth and secure. This implies that the transaction cannot be dependent on the Internet and cloud payment services. No matter how much investments are made into IT-infrastructure, the systems will never be operational 24/7. An ingenious solution is simply to implement this two-tier settlement architecture. Recently, the same approach was proposed by [VISA in a research paper](#) describing an Offline Payment System (OPS) protocol applied to CBDC. Crunchfish's original solution was not however limited to CBDC, but equally applicable to all payment schemes – Card, Real-Time Payments and Closed-Loop Wallets.

**For more information, please contact:**

Joachim Samuelsson, CEO Crunchfish AB  
+46 708 46 47 88  
[joachim.samuelsson@crunchfish.com](mailto:joachim.samuelsson@crunchfish.com)

Ulf Rogius Svensson, IR & Marketing Manager  
+46 733 26 81 05  
[ulf.rogius.svensson@crunchfish.com](mailto:ulf.rogius.svensson@crunchfish.com)

Västra Hamnen Corporate Finance AB is the Certified Adviser. Email: [ca@vhcorp.se](mailto:ca@vhcorp.se). Telephone +46 40 200 250.

*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 February 13, 2021.*

**About Crunchfish – [crunchfish.com](http://crunchfish.com)**

Crunchfish is a tech company with a patent-pending solution for digital offline payments that can be integrated both with the payment rail or in a mobile wallet. The offline solution is globally scalable and makes digital payments more robust as the risks of disruptions and downtime are eliminated. We have also developed Blippit, an app terminal that connects to a cash register system for both online and offline payments. Crunchfish also develops gesture control of smart AR glasses for the consumer market. Crunchfish has been listed on Nasdaq First North Growth Market since 2016 with headquarters in Malmö, Sweden and with representation in India.