



Giesecke+Devrient
Creating Confidence

G+D Filia[®]

Cash for the digital age



www.gi-de.com/cbdc

CBDC: sovereign, trusted, digital

A central bank digital currency (CBDC) is a revolutionary public means of digital payment that is designed for use by everyone, anywhere, anytime. G+D's retail CBDC solution Filia paves the way for secure, inclusive, and resilient digital payments. Let's extend the reach of cash to the digital world.

A nation's currency embodies a citizen's trust in its institutions. This established trust can seamlessly transfer into the digital space with a retail CBDC. As an electronic form of money, it is issued and backed by a central bank as a public good. Secure, private, and truly inclusive, it brings the benefits of cash into the digital age, setting the foundation for economic and social advancements.

As a globally recognized partner to central banks and financial institutions for over 170 years, G+D has extensive expertise in building highly secure digital infrastructures and pioneering digital payment solutions. Our unique and innovative retail CBDC solution, G+D Filia, is a testament to our commitment to driving innovation in the digital financial landscape.



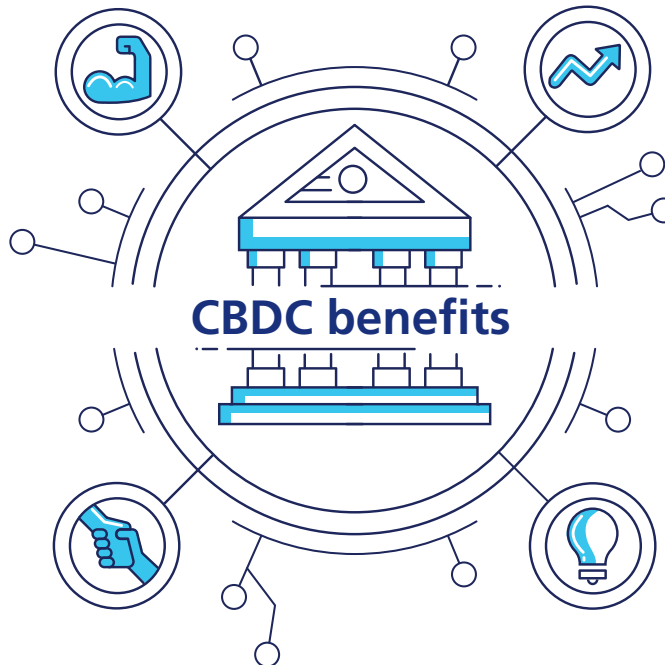
Resilient

A well-designed CBDC, guided by public interest, strengthens a nation by providing every citizen with resilient and secure access to digital payments in our increasingly connected world.

This safeguards financial stability and sovereignty, which is particularly crucial amidst the rise of private payment schemes and other digital currency initiatives.

Inclusive

CBDC with offline capabilities promotes financial inclusion by ensuring access for all, including underserved communities with limited internet connectivity. It bridges the gap by offering a universal, government-backed digital payment solution that is comparable to cash.

**Efficient**

Implementing a retail CBDC reduces fragmentation within payment systems, leading to cost savings for merchants and consumers. With a global perspective, CBDC can ensure interoperability across international systems, supporting seamless cross-border payments that are faster, more affordable, and reliable exchanges for businesses and consumers alike.

Innovative

A retail CBDC holds the potential to create competition and drive innovation in the payments landscape. By establishing a common standard, private players can build their own products and services on top of a secure CBDC infrastructure, fueling growth and groundbreaking new forms of digital payments.

G+D Filia: a pioneering CBDC solution

Filia goes beyond meeting existing needs, aiming to fulfill emerging use cases that are yet to be discovered.

Offline capabilities

Stable access to network connectivity is no longer a requirement. Filia's offline capability enables consecutive secure offline payments, promoting financial inclusion by giving access to under- and unbanked populations.

Smart and programmable

Maintaining public trust is paramount for CBDCs. To ensure transparency and accountability, programmability should be implemented at the payment level, rather than the currency itself. Filia's Smart Wallet approach enables specific conditions to be defined at different levels, tailored to the needs of individuals, businesses, and institutions.

Direct person-to-person payments

CBDC introduces direct transfers between individuals that are not only instant, but also provide settlement finality without a third-party intermediary. This is a game changer in digital payments.

A future-proof solution

The token-based Filia solution offers versatility within smart contract ecosystems. From delivery versus payment to machine-to-machine transactions, Filia unleashes the potential for new and innovative digital payment applications.



A platform for innovation

G+D Filia takes a comprehensive approach that ensures CBDC delivers substantial benefits to consumers, central banks, and commercial stakeholders. With a combination of software and hardware components, Filia provides central banks with the necessary infrastructure and governance mechanisms to assure trust in the CBDC ecosystem.

G+D Filia's technology is a versatile CBDC solution designed (but not limited to) a multi-tier distribution model, just like cash is today.

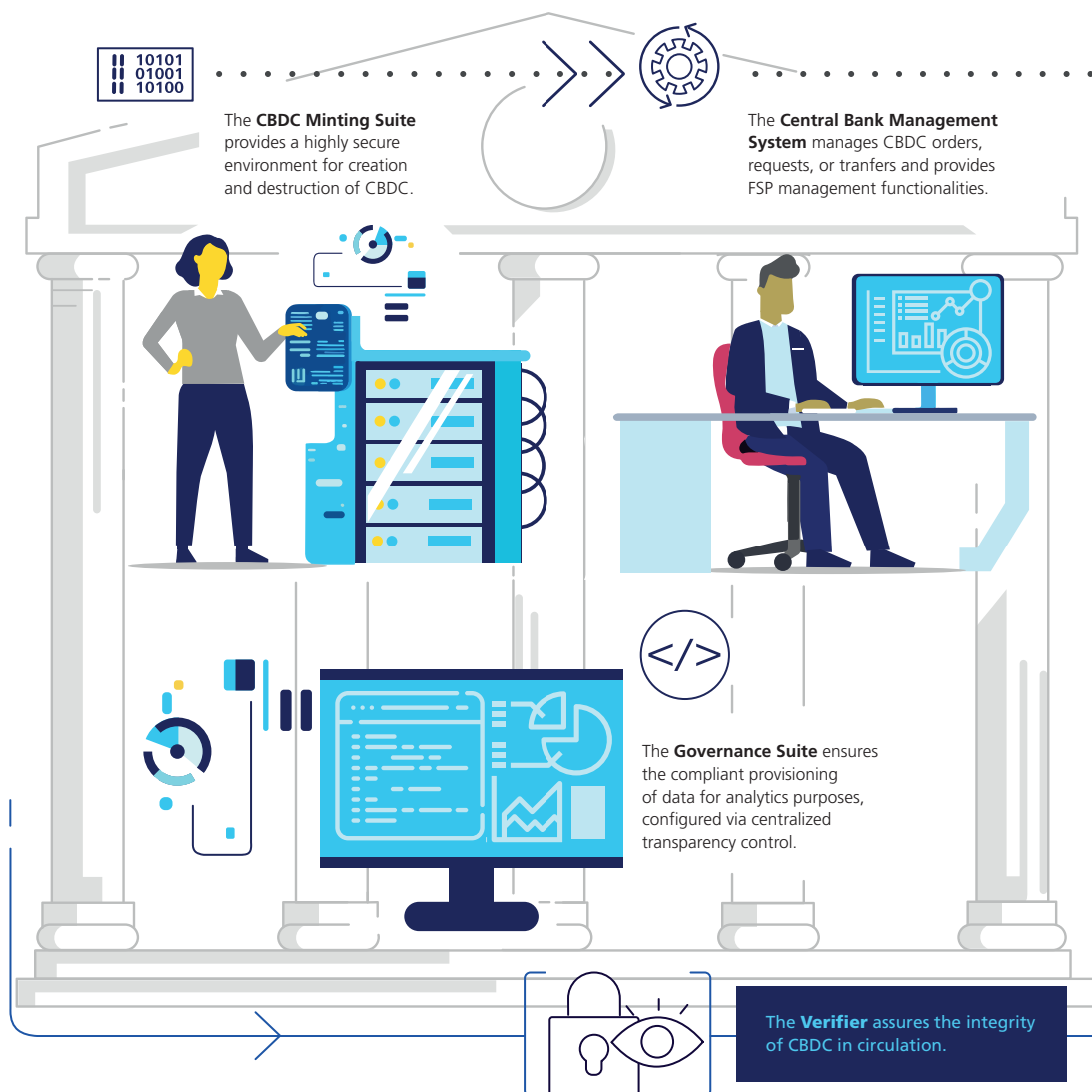
The central bank mints, manages, and issues CBDC, while providing the core infrastructure, which includes the underlying protocol and a robust backend guaranteeing the integrity of currency in circulation. Reliable mechanisms effectively govern the CBDC ecosystem. Private sector intermediaries, such as financial service providers

(FSPs), distribute CBDC and provide end-user wallets. Individuals have the flexibility to physically store CBDC on a hardware device, or allow FSPs to host and manage their wallets securely.

To ensure a seamless onboarding process to the CBDC ecosystem, Filia integrates functionalities for interacting with wallets and backend systems into existing solutions wherever possible. Additionally, payment service providers have the opportunity to integrate Filia into their

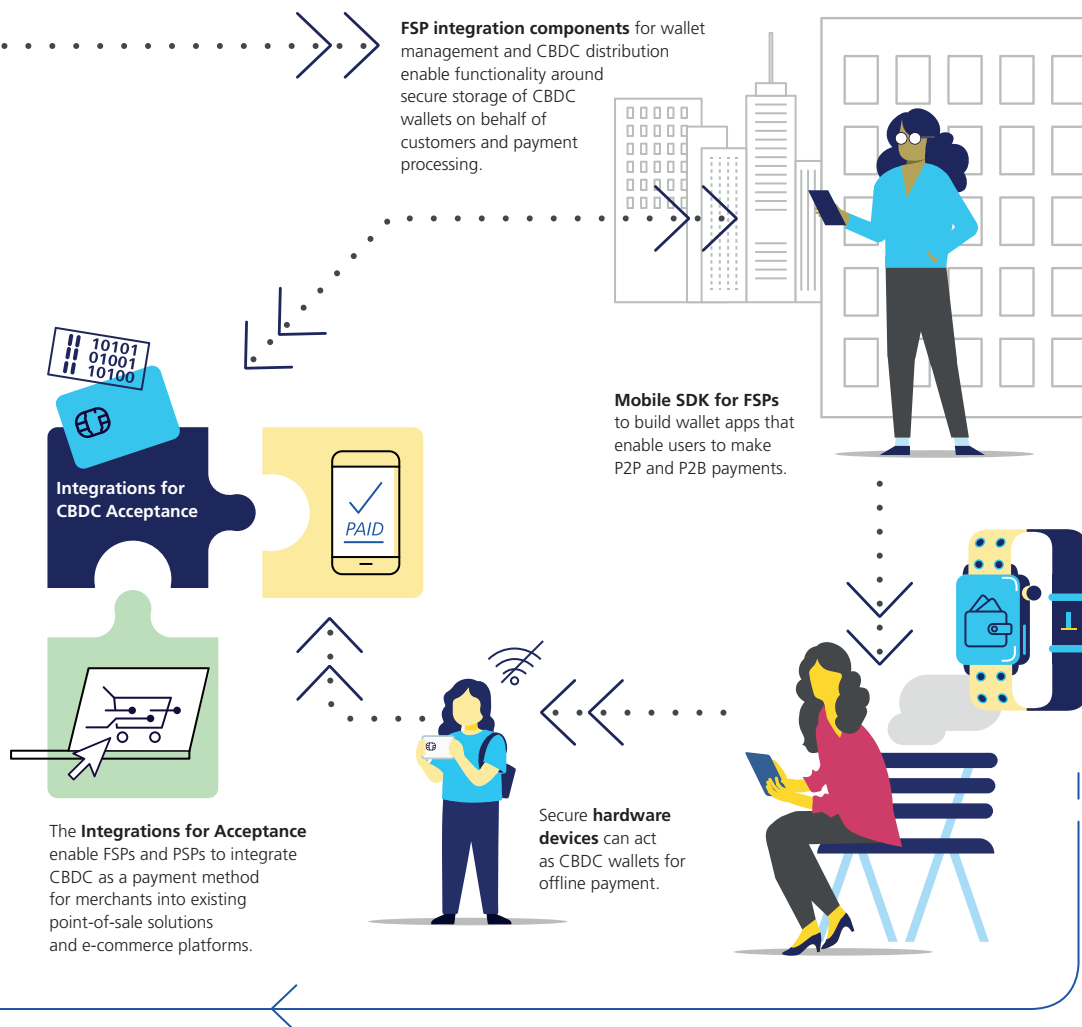
Filia's Central Bank Platform

is integrated by central banks with existing cash management and core banking solutions, minimizing redundancies in the bank's IT infrastructure.



own offerings, empowering them to unlock new business models and drive growth and innovation within an open system.

With Fila, CBDC can be accessed through smartphones, smart cards, smartwatches, and various other forms of digital wallets, without the need for a traditional bank account, with a delicate balance between privacy and transparency. This user-centric approach allows convenience, privacy, and accessibility for all individuals.



Fila's Financial Service Provider Platform provides authorized financial intermediaries with a range of components for seamless integration with existing banking systems.

A blueprint for success

A glimpse into a few of our projects

Truly inclusive

Filia's dual offline capability was recognized in Banco Central do Brasil's **LIFT Challenge** as one of the most promising solutions to tackle the challenges of offline CBDC functionality.

Production-ready

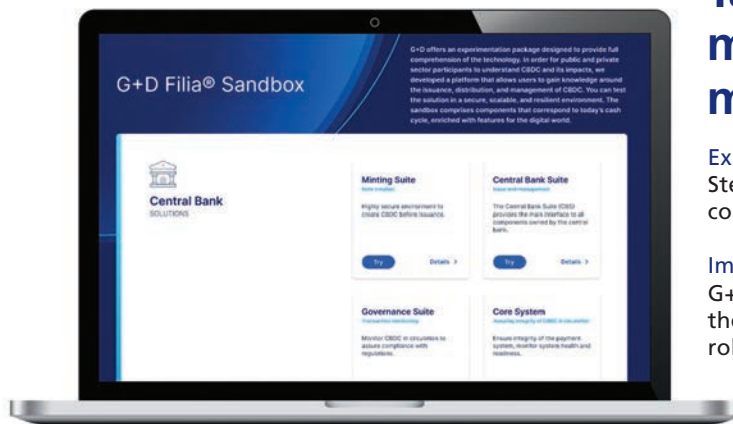
Bank of Ghana's **eCedi** was successfully piloted with a closed user group for off- and online payments.

Proven interoperability

Bank of Thailand's **CBDC pilot**, in collaboration with three financial service providers, reaches approximately 10,000 retail users. The initiative is also exploring the implementation of programmability features.

Designed for innovation

Filia won the Best Technology Award in the **Hong Kong Monetary Authority's Global Fast Track CBDC 2022** competition.



Tailored product offerings to meet your needs wherever you may be on your CBDC journey.

Exploration

Step into the G+D Filia Sandbox to comprehensively test the solution.

Implementation

G+D Filia's infrastructure provides the foundation for a full-scale rollout of a national digital currency.



A trusted partner on your path to CBDC

We offer guided support, from initial consultation to the design and development, implementation, and ongoing operational assistance for your national digital currency.

With years of dedicated research and exploration, G+D has developed a deep understanding of retail CBDC, shaping the thinking around the subject in specific areas.

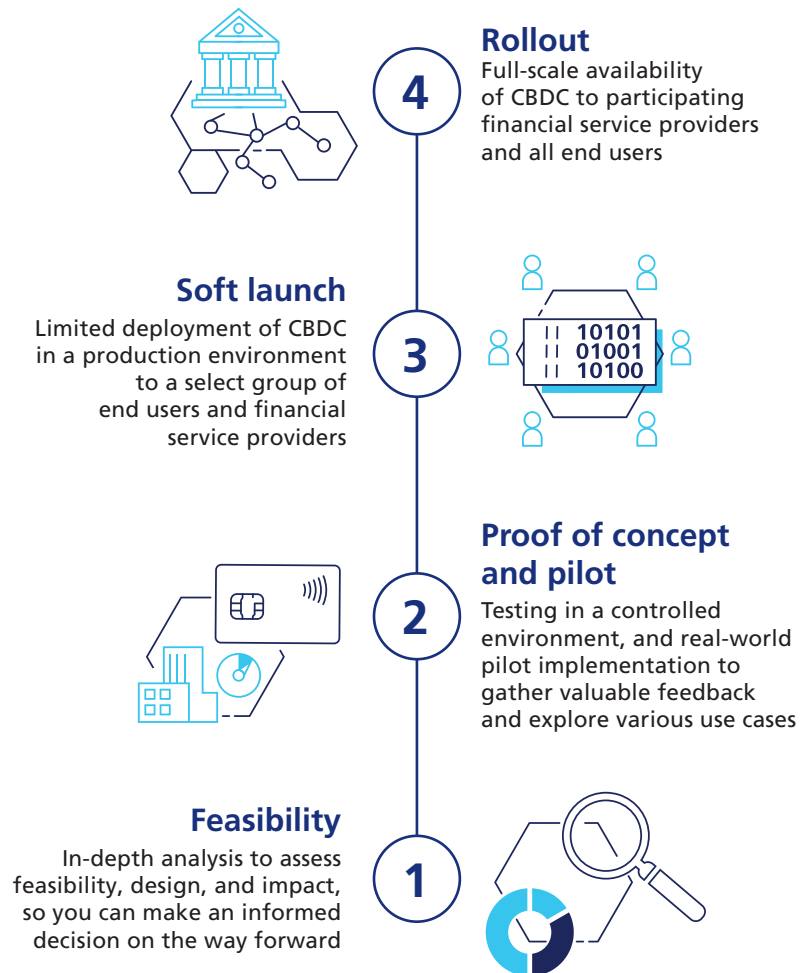
Our expertise across sectors in payments and security technology gives us a unique understanding of CBDCs.

Trust, reliability, and cutting-edge technology are paramount in implementing a national CBDC. With our Filia solution, we deliver precisely that.

Our extensive experience includes advising central banks the world over on CBDC initiatives, conducting in-depth studies, and successfully concluding CBDC projects and pilots with our partners.

We are a diverse team of professionals from over 20 countries dedicated solely to CBDC. Our talented experts are ready to support you in shaping the future of public currency.

Supporting you every step of the way



Want to learn more from our CBDC experts?

Drop us a message:
filia@gi-de.com

About Giesecke+Devrient

Giesecke+Devrient (G+D) is a global security technology group headquartered in Munich. As a trusted partner to customers with the highest demands, G+D secures the essential values of the world with its solutions. The company develops technology with passion and precision in four major playing fields: payment, connectivity, identities, and digital infrastructures.

G+D was founded in 1852. In the fiscal year 2022, the company generated a turnover of 2.53 billion euros with more than 12,600 employees. G+D is represented by 103 subsidiaries and joint ventures in 33 countries.

Further information:
www.gi-de.com



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