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PUBLIC NOTE

# PROJECT DGEL

National Bank of Georgia is pleased to announce that it proceeds forward with the commitment to introduce a Retail Central Bank Digital Currency and, starting from early 2023, commences a Limited Access Pilot Stage in a live testing environment.

[Click to Access Initial Announcement](#)



საქართველოს ეროვნული ბანკი  
National Bank of Georgia





## INPUT RECOGNITION

The research and design work over the Digital GEL was carried out in close cooperation with relevant international parties.

National Bank of Georgia expresses gratitude to all the donor organizations, government stakeholders, individual experts, and technology companies that have supported us over the past two years to fill the knowledge gap, complete in-depth research, share experiences, and engage in dialogues.

# ACKNOWLEDGEMENTS



# PROJECT DGEL

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# INTRO

## NATIONAL BANK OF GEORGIA

The National Bank of Georgia promotes the safe, sustainable, and efficient functioning of payment systems.

It has an exclusive right to issue currency notes as a Legal Tender on the territory of Georgia, besides being authorized to mint commemorative valuables such as coins and banknotes for circulation or numismatic purposes.

Being driven by innovations and a strategic goal to support the growth of the digital economy, the National Bank of Georgia will examine the possibility of introducing a new form of Legal Tender through the Digital GEL pilot project initiation.



# VISION & MISSION

## VISION STATEMENT

**NBG has found a balance between being “Solutions Obsessed Versus Problem Obsessed”.**

During the limited access live environment pilot stage, NBG will “Learn by Doing” and implement a “Bottom-Up” approach while going through the most relevant use cases for the local landscape.

## MISSION STATEMENT

Despite the fact that primary financial infrastructure, instruments, and services in Georgia are predominantly available to the general public, the National Bank of Georgia **(NBG)** identified several gaps and designed Central Bank Digital Currency **(CBDC)** to address those areas with specific, contextualized and value driven use cases.

NBG’s stakeholder-centric CBDC platform will complement existing payment channels **(including the upcoming instant payments system)** and provide a safe foundation for private sector innovations in order to meet society’s current and future needs.

Moreover, NBG will be on track to support wider trends and new promising innovations by facilitating a new digital form of money to adopt features and instruments aimed to expand functionality and bring increased value for retail users and the private sector.

[Click to Jump to the Strategy Page](#)

## BACKGROUND

Since mid-2020, the NBG has been actively considering launching a publicly available CBDC to leverage new technologies and potentially complement the instant payments system project to enhance efficiency in the domestic payment system.

The objective set by the NBG builds upon continuous improvement in areas of financial technologies, underlying business models, and payment systems, where CBDC may unlock new value in interdisciplinary areas bringing innovative tools, use, and application cases to the stakeholders from fintech, business, and government.

Moreover, it can enhance financial intermediation efficiency, expand populations' access to finance, and open the gate to innovative products and services. From the policy-making perspective, Digital GEL **(DGEL)** can improve the monetary policy transmission mechanism and bring increased precision to NBG's decision-making accuracy.

After concluding the extensive research on the CBDC and underlying technology instruments and features, NBG has initiated the DGEL project, emphasizing the necessity to update central bank money and introduce a new alternative payment and financial ecosystem which will complement the existing infrastructure and forms of money.

In early 2021, NBG made the first public announcement inviting technology organizations to join efforts and explore the frontiers of new financial technology that preferably had to be in line with the recommendations set by the Bank for International Settlements **(BIS)**.

[Click to Access Initial Announcement](#)

Throughout two years period, with a series of discussions, NBG studied up to 100 relevant technology companies, their products, and services while emphasizing CBDC's overall potential and the core technology options presented on the market.

In May 2022, NBG hosted the "CBDC & DeFi Conference Tbilisi", where local stakeholders got the opportunity to deepen their knowledge regarding the CBDC concept and participate in great value networking with industry-leading international organizations.

As a result, NBG is pleased to announce that it proceeds further to the stage of Technology Partner **(TP)** selection for the DGEL pilot project. Together, NBG and TP will commit to gradually developing a live testing environment for multiple instruments and use cases to learn, explore, and solve technological, legal, and policy matters. Besides, with the participation of local stakeholders, including financial institutions, the governmental sector, and the fintech community, NBG will gradually increase the scope and scale of the DGEL until achieving all milestones set for the pilot program.

# EXPECTATIONS

On a high level, there are a set of motivations and premises compelling NBG to launch the pilot stage in early 2023 to identify whether the DGEL can meet the listed expectations.

## UNLOCKS NEW BUSINESS MODELS

01

DGEL fuses new platforms and business models with subsequent enabling tools and features, incentivizing the growth of the digital economy by abolishing entry barriers and unlocking access to new products and services for the public good.

## IN LINE WITH WIDER POLICY OBJECTIVES

02

DGEL has no detriment to financial stability and intermediation, while the monetary tool supports the central bank's mandate for achieving monetary policy and macroprudential goals, bringing a positive impact on the country's economy and ensuring a safe and stable financial and payment environment.

## STIMULATES NATIONAL DIGITALIZATION AGENDA

03

A high-performance and secure platform, with the support of Smart Contracts, Tokenization, and Programmability, unlocks a multi-purpose and immense potential foundation for governmental institutions/agencies to innovate and use the infrastructure for digitalization in their respective areas, such as e-ID and e-Signature.

## BECOMES RELIABLE MEANS OF PAYMENT

04

DGEL is an instantaneous, widely adopted, low-cost, secure, and reliable means of payment with the overlay of subsequent regulatory policies.

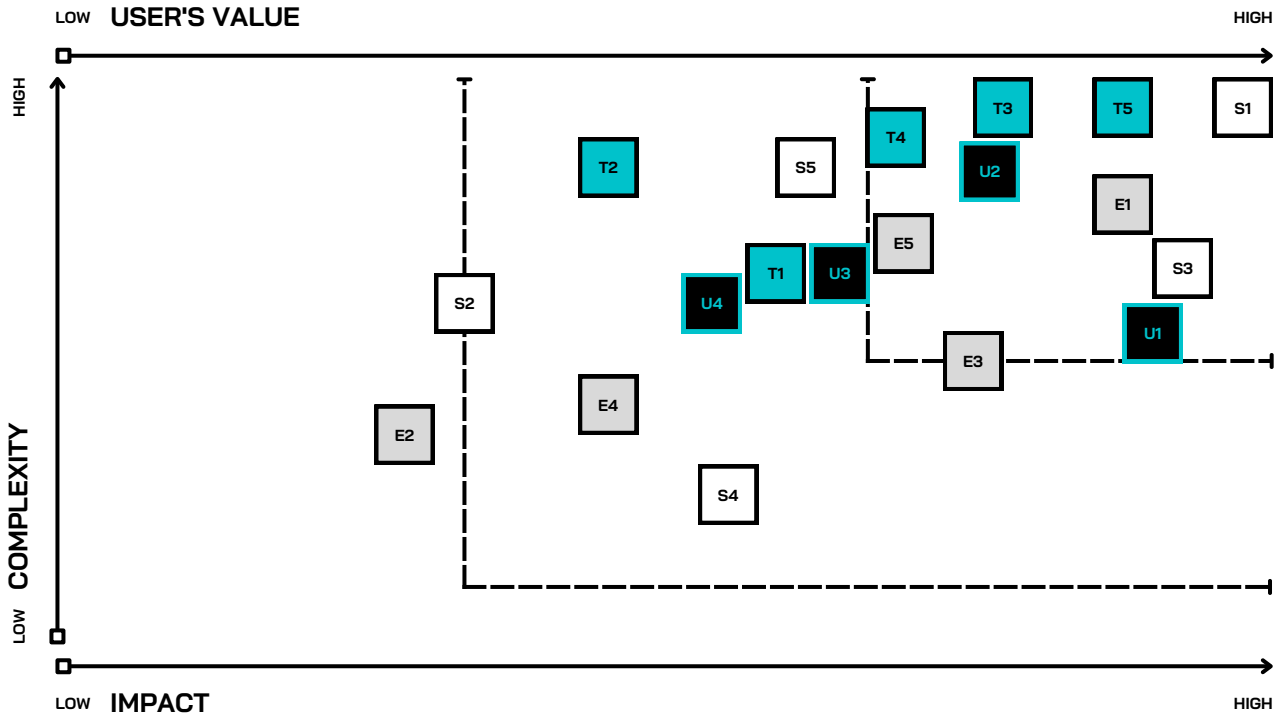
# GOALS

Based on the design choices and potential features, NBG unveils a part of specific goals categorized as being achievable in the short, mid, and long term.

	SHORT TERM	MID - TERM	LONG TERM
RETAIL	To introduce a new payment network with innovative features to fill the gaps in the existing payment landscape and deepen financial inclusion.	To make Smart Contracts and subsequent interfaces available for the general public to expand customization options ensuring more flexibility to define custom conditions under which events a transaction is to be triggered.	To implement a Programmable Money feature enabling making basic or auxiliary predetermined purpose-centric payments, with pre-programmed conditions that ensure money is used for the preselected products, services, or beneficiaries for which or whom it is intended.
MSME	To introduce an alternative payment system granting the ability to remove/reduce costs for businesses associated with cash maintenance and intermediary fees for payment processing.	To introduce Smart Contracts instrument creating a foundation for businesses to automate, accelerate and reduce costs in multi-operational areas.	To encourage stakeholders to leverage DGEL ledger and supported instruments to move towards digitalization and ease the burden of various operational costs and bureaucratic procedures for businesses.
FINTECH	To create a new market for fintech companies by establishing a CBDC network with subsequent technology instruments to encourage local fintech companies to innovate and take over new business areas.	While gradually introducing new DGEL features, enabling added value instruments and regulatory frameworks, to incentivize international fintech companies to introduce their innovative products and services to the local retail market.	To have a high-performance system supporting atomic payments that enable a potential transition towards the Internet of Things (IoT) and underlying new business models.

The explorations regarding CBDC and added-value enabling technology instruments and features are still ongoing, however, preliminary NBG has already identified a set of value-added use cases for the general public outlined in the prioritization matrix.

# VALUE MATRIX



	TECHNOLOGY - ENABLED USE CASES	TOKENIZATION & E - GOVERNANCE	SMART CONTRACTS & PROGRAMMABILITY	PLATFORM USERS
	T	E	S	U
1	ATOMIC SETTLEMENT	E - SIGNATURE & E - ID	EVENT TRIGGERED & CUSTOM LOGIC TXN	RETAIL
2	ATOMIC SWAP	TOKENIZED COMMEMORATIVES	DECENTRALIZED AUTOMATED INSURANCE	FINTECH
3	ITERATIVE PAYMENTS	RETAIL TOKENIZED GOV. BONDS	R.E & OTHER TYPES OF ASSETS ACQUISITION	MSME
4	MICRO & MACHINE TO MACHINE PAYMENTS	TRANSPARENCY TOOLS & AUTOMATED REPORTING	ESCROW ALTERNATIVE	GOVERNMENT
5	CROSSBORDER REMITTANCES	OWNERSHIP TOKENS	PAYMENT ORDER & TOKEN GRADE PROGRAMMABILITY	



# PLATFORM & INSTRUMENTS

To meet outlined goals and expectations, in addition to the overall features, attributes, design choices, principles, constraint mechanism, and architecture that will be disclosed in the future, the DGEL platform will fuse of following foundational instruments.

## PROTOCOL



DGEL will be built on high-performance, cyber-resilient, sustainable, and scalable DLT protocol, ensuring secure functioning while supporting simultaneous access, record update, and validation across a network.

## PROGRAMMABILITY



The DGEL will have a Programmable Money feature enabling assigning pre-programmed logic that determines the products, services, and beneficiaries payments can be made for/to.

## ASSET TOKENIZATION



DGEL platform will support the extensive financial assets Tokenization, DLT capital market deployment, provision of tools for securitization, and retail access to safe assets issued by the government.

## API & SDK



For financial institutions and fintech companies, the technology underpinning the DGEL will be convenient to integrate into the ecosystem using all the necessary tools, including Application Programming Interface **[API]** and Software Development Kit **[SDK]**.

The DGEL API will allow platforms, networks, and applications to interact with external services and systems. SDK will provide guidelines, programs, and tools enabling the development and contribution to DGEL platform-specific applications.

## SMART CONTRACTS



DGEL will support the implementation and development of products and services using Smart Contracts that are irreversible, self-executing agreements placed in the DLT Network that carry pre-defined terms within the lines of code forming a custom logic.

# PROJECT EXECUTION STRATEGY

## LEARNING BY DOING APPROACH

After years of research, CBDC is still a relatively new conceptual monetary tool. Different central banks and private institutions have evaluated possible risks and design-related issues about the CBDC. However, there are still many unknown and unforeseeable challenges on the road.

Based on this assumption, NBG will proceed with the project under the idea of "Learning by Doing" to take part in global efforts to solve the policy and technology challenges for mutual experience exchange and timely introduction of CBDC to the general public.

## MODULAR APPROACH

By virtue of the project's complexity, with a modular approach, the DGEL initiative will break down into a set of deliverables and targeted milestones. Upon completion of the pilot stage and potential launch of CBDC development, the DGEL will aim to add up new components and instruments that eventually, upon completion and testing, will be connected and gradually introduced to the general public. With a modular approach, NBG aims to achieve adequate risk management and overall flexibility.

## BOTTOM - UP APPROACH

NBG saw the potential for DGEL to transform into more than just another means of payment. As a result, strategic priorities and objectives are outlined. The key to our thinking process is a use-case-by-use-case implementation.

NBG has identified a set of use cases relevant to Georgia's context and mapped them with the functions accessible with DGEL design. It allows us to balance between being "Solutions Obsessed Versus being Problem Obsessed".

# CLARIFICATIONS

## DIGITAL FIAT

01

DGEL might be a new form of money issued by the NBG. Same as banknotes and coins, it might act as a transmittable, direct claim on the NBG depending on the CBDC system framework.

## NOT A CRYPTO

02

DGEL is not a cryptocurrency. Those are privately issued digital assets. It might only share the similarity with the foundational core technology while being emitted and the supply regulated by NBG.

## ALTERNATIVE - NOT A SUBSTITUTE

03

DGEL will not be a substitute for physical or commercial bank money. On the contrary, innovation will coexist and complement the existing forms of money while potentially increasing the functionality and efficiency of the national payment system.

## SAFETY SETTING

04

In order to ensure the system's safety, DGEL will have a set of technology components designated to protect it from counterfeiting, hacking, double-spending, core systems infringements, and data breaches. Besides, NBG will introduce tools to examine financial crimes and illicit activity.

## POLICY SETTING

05

Besides the central bank's policy transmission platform, the existing policies imposed by financial intermediaries, including Anti-Money Laundering **(AML)** and Combating the Financing of Terrorism **(CFT)**, will still be applicable.

## TWO - TIER MODEL

06

The DGEL distribution model will follow the existing two-tier financial system where authorized and regulated financial institutions will be responsible for servicing the retail clients.

# CLARIFICATIONS

## ANONYMITY SETTING

07

NBG is still evaluating privacy subjects. According to the current approach, the Know Your Customer **(KYC)** information will not be stored on the DGEL ledger. As for the transaction/payment order registry, two major configurations are under consideration to define whether the retail user's record will be stored on the central ledger or will be recorded only by intermediaries.

If the choice is made to keep the record in the central ledger, since user IDs will not be part of stored data, NBG will not have technical grounds to identify the payer/payee.

## DISTRIBUTED LEDGER TECHNOLOGY

08

The DGEL should be issued using Distributed Ledger Technology **(DLT)** while users will store it in individual e-Wallets provided by Licensed Service Providers **(LSP)**.

DLT differs from a conventional centrally controlled database in terms of efficiency and degree of protection from a single point of failure. The technology considerations underlying the deployment of CBDC need to be forward-looking and must have strong cybersecurity, technical stability, resilience, and sound technical governance standards.

## SUM - UP

CBDC/DGEL initiative plays an important role in achieving NBG's strategic goal to improve the degree of convenience, efficiency, flexibility, and customizability within the national payment landscape. Besides, boosting and incentivizing the growth of the local fintech industry, DGEL will ensure that capabilities unlocked by the technology are accessible to the general public. Both incentives ultimately enable achieving the broader national plan to digitalize and transform Georgia into a regional innovation hub.

Considering the pace of development and uptake of the Blockchain and DeFi ecosystem, the introduction of a future innovation-prone platform ultimately ensures that DGEL will integrate new functions, features, and tools to meet society's evolving needs in a safe environment.

The DGEL, similar to physical fiat, will be NBG's liability emitted following the monetary policy. For the foreseeable future, NBG has no intention to remove existing banknotes and coins from circulation.

NBG's mandate to ensure access to central bank money in all forms will not be neglected as coexistence improves the grade of financial inclusion while also deepening the spectrum of options based on society's broader needs.

Lastly, the DGEL project is not only about introducing a new payment system but rather creating a new infrastructure that will empower the development of innovative financial products and services. The basis of tremendous areas for innovation will be DGEL's performance in terms of payments settlement time, Transactions Throughput per Second **(TPS)**, and the introduction of smart contracts, tokenization, and programmable money feature.

# ROADMAP

## APPLICATION EVALUATION COMMITTEE

NBG will assemble a DGEL Project TP Selection Committee formed out of local and foreign relevant field experts that will be responsible for evaluating and scoring submitted applications and have a recommendatory role to NBG.



## INVITATION TO SELECTED COMPANIES



NBG will invite shortlisted CBDC core technology providers to express their interest and participate in a competition purposed to select a limited-time run pilot program TP.

## POC STAGE

The PoC stage will encompass the evaluation of the technology and underlying components/instruments through the predefined internal parameters. Besides, parties will be required to submit the Project Execution Plan (PEP) and other relevant documentation.



## AGREEMENT FINALIZATION



Upon selecting the winning application, NBG and the selected TP will move to a certain period to further align the PEP and structure the final roadmap, timeline, and legal aspects. Upon completion, NBG and TP sign the MoU for the pilot program.

## PILOT STAGE

DGEL pilot stage will serve the purpose of experimenting with technology and use cases to assess the potential of CBDC and form a perception of whether and how it can contribute to the welfare of society through new instruments for retail users, businesses, and the public sector.



## PILOT STAGE CONCLUSION



Upon concluding the pilot stage and achieving the agreed milestones with TP, the pilot stage will be concluded, the whole infrastructure will be redeemed, and NBG will form a decision based on the pilot stage finding whether to proceed with the DGEL introduction to the general public.



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