Digital Fiat Currency
The true alternative to physical currency
The single largest opportunity for Central Banks in fintech is to digitize cash

- $75 trillion worth of cash transactions globally
- 85% of global consumer payments in cash
- Cash costs societies up to 2% of GDP with printing, distribution and destruction
- Over 2 billion people are confined to handle and transact only in cash (due to lack of access to formal financial services)

Source: World Bank; Cash transaction value is estimated based on eCurrency’s benchmark on money velocity; Cash costs is estimated based on Mckinsey’s study, eCurrency research and analysis
eCurrency has developed the technology to digitize cash at the source – the Central Bank

“Digital Fiat Currency”

- Legal tender, alongside bank notes and coins
- Issued by the central bank
- Sovereign denomination
- Interoperable instrument
- Instant settlement
- Unparalleled system security
Key market drivers have put Central Banks at the centre of fiat currencies and financial services digitization

Market opportunity driven by digitization and technology development

- There is need for a truly cost efficient, secure, friction & risk free digital payment instrument for all, i.e. Digital Fiat Currency (DFC) to enable financial inclusion
- Internet connectivity and payments infrastructure are in place with substantial reach

The illegitimate nature of Bitcoin has caused concern at central banks

- Blockchain / DLT has proven too slow and inefficient as a digital transaction platform
- Issuance of Digital Fiat Currency can only be secured at a central bank by eCurrency
- eCurrency’s Digital Fiat Currency can transact on any payment platform in use today or on a future blockchain / DLT

Regulators need a sustainable solution to enable digitization of financial services and fiat currencies

- Sustained governance and monetary policy control
- Ensured transparency in digital financial services and transactions
The Core security technology leverages design principles from physical cash

Multi-layered security protocol with cryptographic and algorithmic layers to prevent counterfeiting and ensures M0

5 Key Layers of Security

1. Special base materials, e.g. cotton fibres with linen, watermark added
2. Intaglio printing; security thread
3. Information, e.g. currency unit, face value, issuing authority, signature
4. Serial number with check digit and trap numbers
5. Fluorescent pattern, micro text, holographic pattern

Dynamic tracking of instrument volume; intra payment system instant settlement; policy enforcement
Issuer and distributor identity and authentication
Currency unit, face value
Country specific digital fabric stock tracking
Tamper resistant secure hardware handling cryptographic keys and instrument value
Digital Fiat Currency has all the beneficial characteristics of physical currency

Digital Fiat Currency is:

- Legal tender issued by the Central Bank
- Sovereign denomination
- Monetary base (M0)
- Universal and Interoperable
- Instant settlement
- True to the three tests of currency
  - Common unit of account
  - Store of value
  - Medium of exchange

Digital Fiat Currency is NOT

- BITCOIN (cryptocurrency)
- Blockchain (technology enabling BITCOIN)
- Distributed Ledger Technology (DTL database for Blockchain)
- Supra National Currency (Ripple XRP)
- Initial Coin Offering
Segregation of supply & settlement from payment service using the bearer instrument

eCurrency digital fiat currency solution

**Bearer instrument supply and settlement** (eCurrency solution)
- Responsibility of and controlled by Central Bank
- Issuance, settlement, redemption
- Real time, system-wide, anonymous traceability, analysis and integrity

**Payment system**
- By private, public sector and optionally by Central Bank
- KYC, AML, consumer protection, etc
- Innovative access to pay and save in risk-free central bank money

Convertible through but independent of the existing bank owned payment infrastructure

Central Bank bearer instrument

Located in Central Bank secured facility

Co-located in payment service providers’ data centers

Bank money / cash ↔ DFC conversion point

Existing bank owned payment infrastructure

Open ‘bearer instrument service’ interface

DFC centralized supply

DFC distribution and decentralized settlement service

DFC payment service

Mobile, internet e-money wallets

Stored value facilities
The technology solution for issuing Digital Fiat Currency has three core elements

**Issuance - Digital Fiat Currency Instrument**
- Legal tender
- Issued by the Central Bank
- Sovereign Denomination
- Interoperable
- Instant Settlement

**The eCurrency Technology Distribution**
- Hardware Security • Advanced Cryptographic Security
- Scalable Performance • Technology Agnostic
- FIPS 140-2 LEVEL 4 • 99.99% availability

**Complete Transparency & Visibility**
- Real time data
- Eco-system wide aggregated and transaction level circulation statistics, e.g. number of transactions, value, frequency and distribution
Distribution of a Digital Fiat Currency is similar to physical currency

Secured issuance

Central Bank

Commercial Banks

Distribution

Wholesale

Retail

Interoperable

Peer-to-peer

Central Bank

Mobile, internet e-money wallets

Merchants & Consumers

-eCurrency-
Standards for Digital Fiat Currency under development

• Focus Group on Digital Currency for International Telecommunications Union (UN Agency for information and communication technologies)

• eCurrency selected as US Expert to ISO TC 68 SC 2 on Digital Currency Security

• Foreign exchange is being addressed in ISO digital currency group

• Member of U.S. Federal Reserve “Security Payment Working Group’s Standard Assessment Subcommittee”

• Board of directors of ANSI X9 workgroup AB and F (payment, data and information security)

• Appointed US Core Banking standard organization X9 board member

• Participated in Global Platform Trusted Execution Environment (TEE) technical specification review
Actively engaging with 30+ central banks on potential of DFC implementation

- Pilots in 3 markets since 2012
- Commercial Deployment in Africa in November 2016
- Planned Rollout in 3 new markets in Europe and Asia in Q4 2017
Digital Fiat Currency in the context of developing and developed markets

**Developing country priority**
- Statutory responsibility
- Governance and Control
  - Monetary policy
  - Systemic risk reduction
- Financial inclusion
  - Ultimate trusted financial instrument
  - Universal access
  - More affordable financial service
- Interoperable
- Lower cost of cash

**Developed country priority**
- Statutory responsibility
- Governance and Control
  - Monetary policy
  - Systemic risk reduction
- Trusted financial instrument
- Macro-economy benefits | Growth
- Efficiency
Thank you

website: www.eCurrency.net
email: info@ecurrency.net