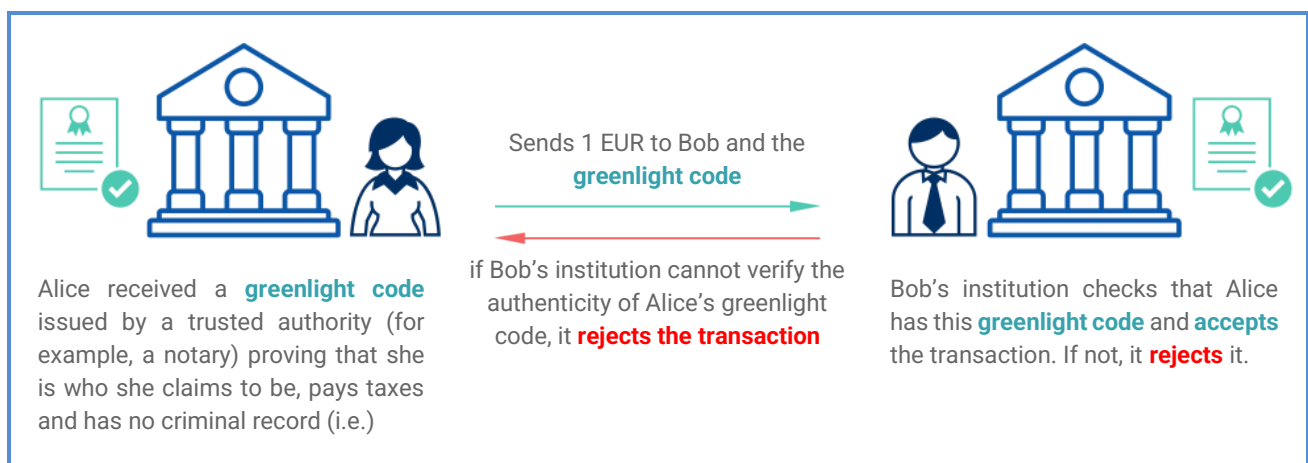# FIGHTING MONEY LAUNDERING IN THE UK

Zero-Knowledge Proof Technology: A secure and cost-effective way forward

In an ever-growing digital ecosystem, concerns with privacy and security remain pressing. These concerns over data ownership and privacy have guided research into innovative tools and mechanisms facilitating the digital economy and minimising privacy risks. The adoption of ZKP will make the UK a pioneer in a novel, cutting-edge technology that will trigger economic growth and establish the most effective safety procedures within the digital economy.

1. What is Zero-Knowledge Proof (ZKP)?

ZKP is a cost-effective, secure and GDPR-compliant solution utilised to verify identities in the digital world while protecting the data from being hacked or stolen. ZKP can essentially serve as the "**notary on the blockchain**", which significantly reduces transaction costs and increases transparency when investigating potential Money Laundering and Terrorist Financing (ML/TF). Furthermore, ZKP can create job opportunities across the UK in this novel industry.

2. Example of how ZKP works

Alice received a **greenlight code** issued by a trusted authority (for example, a notary) proving that she is who she claims to be, pays taxes and has no criminal record (i.e.)

Sends 1 EUR to Bob and the **greenlight code**

if Bob's institution cannot verify the authenticity of Alice's greenlight code, it **rejects the transaction**

Bob's institution checks that Alice has this **greenlight code** and **accepts** the transaction. If not, it **rejects** it.

The codes are assigned over a long period of time, meaning that Customer Due Diligence (CDD) does not need to be conducted by each institution separately. This is both cost-effective and secure since personal information is prevented from being spread across multiple institutions. However, if a transaction is suspicious, law enforcement can receive access to the identities behind the codes within minutes.

3. Compliance with AML/CTF, FATF Travel rule and UK GDPR

ZKP solution for information management can greatly help any dedicated AML Supervisory Authority, since the Authority can **swiftly access the Originator's (sender) and Beneficiary's (receiver) personal information** in case suspicious behaviour is reported. This ensures **full traceability of cryptoasset transfers** and prevention of potential ML/TF. At the same time, CASPs are monitoring the transactions to detect and report suspicious activity to the Authority.

Currently, customers are required to provide personal data too often to various institutions, which leads to a risk of having their data lost, hacked or stolen. With ZKP customers need to prove their identity only once in order to receive a KYC greenlight code. This complies with UK GDPR rules as ZKP **protects the personal information and reduces the risks of customers' data to be compromised**.

ZKP can be used by CASPs to comply with the FATF Travel rule, **evidencing the knowledge of the Originator's (sender) and the Beneficiary's (receiver) identities, without the need to reveal unnecessary personal information**, unless requested by the Supervisory Authority. All in all, ZKP as a solution curtails regulatory burdens without compromising security and data privacy.

4. Application of ZKP

ZKP can help law enforcement agencies to have a fast and inexpensive proof of any information they need without compromising UK citizens' right of protection of personal data. Moreover, ZKP can effectively serve to check information on any digital platform. Therefore, the ZKP solution also can be utilised by governments to share information with each other, verify the origin of information and tackle illicit activity in an efficient way.