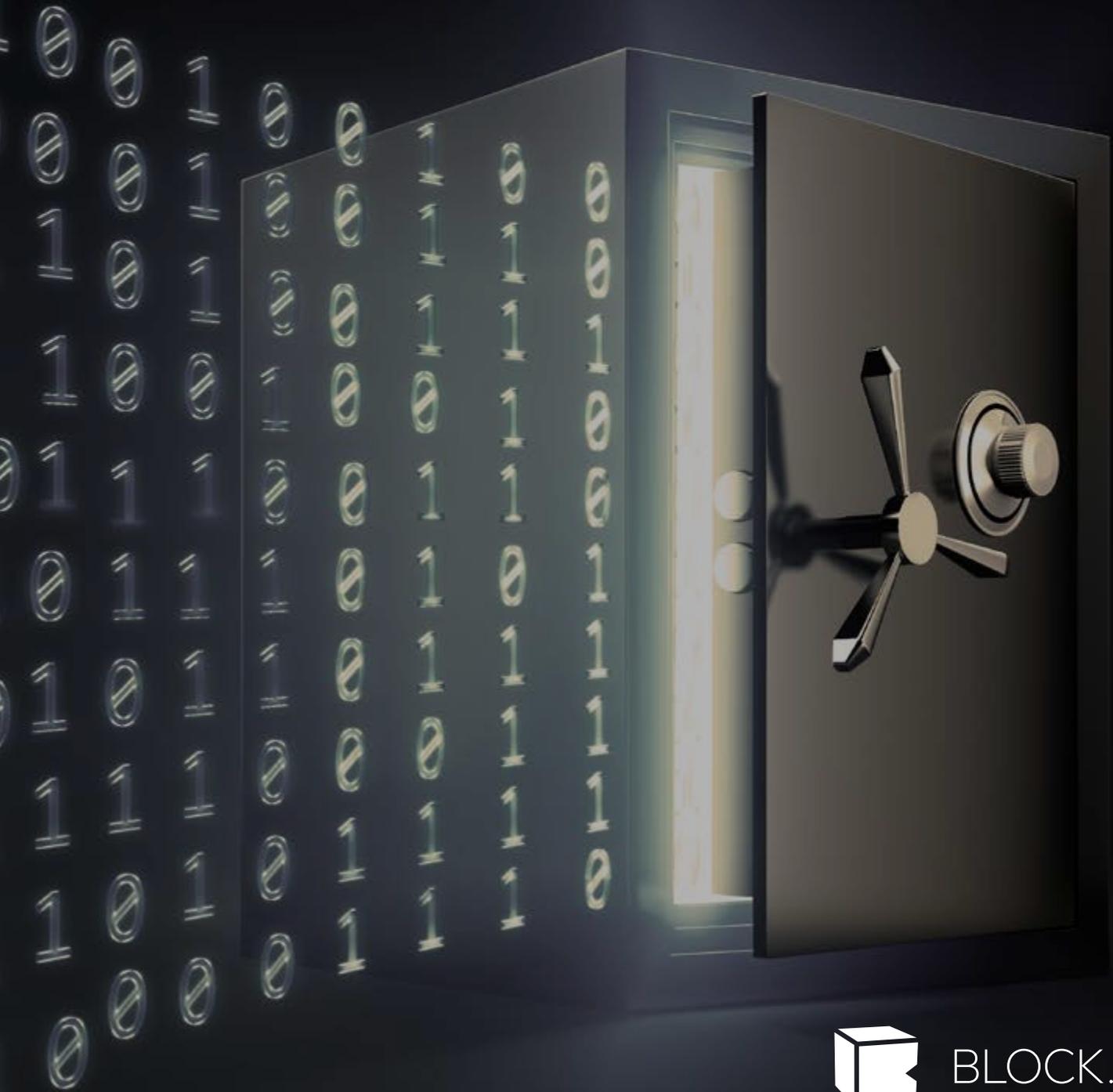# Digital Self-Verifiable Certificates You Can Trust

Block.co, a pioneer in Blockchain Credentialing applications, transforms the way organizations leverage blockchain technology in the issuance, self-verification and revocation of digital records.

15+
Industries Supported

15,000+
Certificates Issued

Our Product

Enable the issuance of digital certificates anchored to the Blockchain assuring immutability, and security.

Block.co's solution is based on open standards. Block.co offers a number of product options to suit the clients' particular needs. These range from the basic module to more premium ones, unlocking additional enterprise capabilities. Block.co also offers professional assistance to clients that require initial configuration of templates as well as broader integration with their existing systems. The technology is offered as a Software as a Service (SaaS), on a Multi-tenant platform, with a customizable User Interface (UI).

> We at the British University of Dubai used the blockchain certificates technology of the University of Nicosia with great success for the entire graduating class of 2017. The process of issuing them was smooth and without any problems. University of Nicosia's guidance and support was excellent during the implementation phase of the project. We will continue to provide such certificates in the future and we are now in the process of updating our system and issuing the blockchain certificates to all of our past students. In addition, we are currently exploring additional opportunities to bring blockchain certification technology to various Governmental and non-Governmental Higher Institutions within UAE.

Maria Papadaki
Managing Director
Dubai Center for Risk and Innovation, British University in Dubai
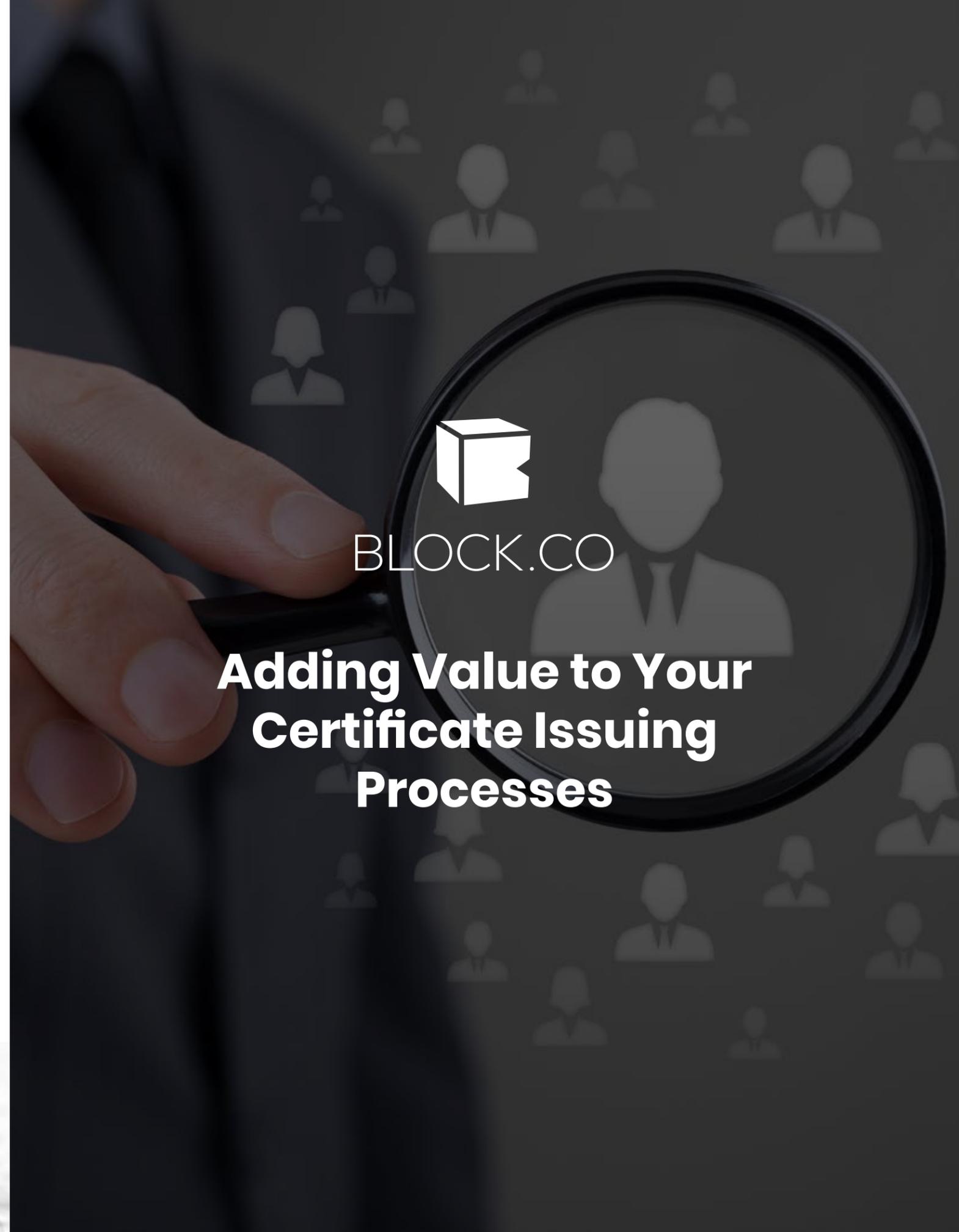
BLOCK.CO

Adding Value to Your Certificate Issuing Processes

What is Blockchain Credentialing?

Blockchains (aka decentralized ledgers) can be described as data structures with the following inherent attributes:

TRANSPARENT

All data embedded in the document is publicly available for anyone to review

OPEN

The network is open for anyone to participate

IMMUTABLE

Data relating to a document can only be added on the structure; cannot be altered or removed

SECURE

Powered by strong cryptography

Why Block.co?

Blockchain-anchored records add value to your issuing process and create benefits for all involved.

EASY DIGITAL CERTIFICATES

Issue unique certificates for your organization using a simple list of recipients and a template form

BLOCKCHAIN IMMUTABILITY

Digital fingerprints of certificates placed in a blockchain transaction

UNFORGEABLE CERTIFICATES

Certificates are impossible to falsify

SIMPLE VALIDATION BY ANYONE

Easy and automated validation process

EASY DISSEMINATION

Disseminate certificates in a time-efficient manner

EASY ADMINISTRATION

Reduce paperwork and workload

IMPROVE EFFICIENCY

Remove middlemen from the process

PROVIDE OWNERSHIP

Empower recipients with ownership of records

CREATE BRAND AWARENESS

Drive your brand's awareness through the records you share online

How it Works

A) ISSUANCE OF CERTIFICATES

The process of issuing certificates on the blockchain involves 6 steps with the following characteristics:

STEP 1: **CREATING THE CERTIFICATES**

Requires a CSV file with all the information.

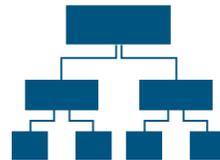A PDF document populated with the appropriate fields.

STEP 2: **ANNOTATE CERTIFICATE WITH METADATA**

Adaptive definition of metadata.

Inject machine readable metadata to the PDF.

STEP 3: **CREATE A MERKLE TREE DATA STRUCTURE**

Computation of digital fingerprints for each certificate.

Certificates are sealed with a unique fingerprint.

STEP 4: **PUBLISHING ON THE BLOCKCHAIN**

A transaction is triggered and sent to a node for confirmation.

Once confirmed, it is safely stored on the blockchain.

STEP 5: **DISSEMINATION TO THE USERS**

Enable easy dissemination processes.

Certificates are ready to be independently verified by anyone.

B) VALIDATION OF CERTIFICATES

The authenticity of a certificate can be validated by uploading the PDF of the certificate onto a webapp developed by Block.co.

If the PDF file does not successfully validate then a warning message is generated indicating that some of the metadata has been tampered.

### The Validation Process involves 4 steps:

STEP 1: **EXTRACTING BLOCKCHAIN PROOF METADATA**

The blockchain proof metadata is extracted and removed from the PDF.

STEP 2: **CALCULATING THE HASH OF THE REMAINING PDF CERTIFICATE**

We hash the PDF credential, which as mentioned above, is the one that was issued on the blockchain. If the certificate was modified in any way the hash will differ from the one issued.
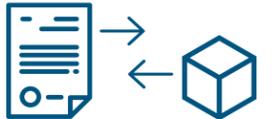
STEP 3: **IDENTIFYING MERKLE ROOT**

Extracted metadata are used to access data from a Blockchain transaction that are used to identify the Merkle root.

STEP 4: **HASH COMPARISON FROM THE MERKLE TREE PROOF**

The digital fingerprint of a certificate in conjunction with the Merkle proof are used for validation purposes.

C) REVOCATION OF CERTIFICATES

STEP 1:

ENCODING DATA ON A META-PROTOCOL

Data relating to the revocation operation are encoded on a Meta-protocol that points to a previous transaction.

STEP 2:

VALIDATOR REJECTS TRANSACTION

A set of validator rules are consulted before confirming the validity of a certificate.

About Block.co

In 2014, the University of Nicosia (UNIC) in Cyprus, as part of its global Blockchain adoption drive, which comprised of it being the first University globally to offer a Masters' degree in Digital Currencies, as well as, accept Bitcoin as payment for tuition fees, was also the first globally to develop a product which enabled it to issue academic certificates on the Blockchain. The motivation behind this was to enable anyone independently and remotely, without the need of any intermediaries to validate the authenticity of any issued certificate.

Block.co as a start-up company, that was spinned-off by UNIC, has successfully completed its seed round of funding. It carries a team with a blend of skills consisting of Blockchain engineers, academics, and field experts to accommodate all technical and other requirements of any entity, wishing to register any type of credentials on the Blockchain.

Combining the flexibility and drive of a start-up, the broad knowledge in blockchain technology, and the extensive and diverse industry experience of its management team, Block.co is looking to be entrenched in a short period of time as a global player in the provision of solutions regarding blockchain secured digital records.

With the confidence in a product that has been successfully implemented for over four years by its creators, the University of Nicosia, Block.co is reaching out to clients from all sectors of the economy with business operations involving the issuance of any type of certificate.

If you are an academic institution or research centre, a government department or local authority, a professional body, an insurance or shipping company or any other entity that issues certificates, the security and immutability of which you would wish to secure, Block.co has the right product for you.

Curious About How We Can Help Your Business?

Get in touch today to find out what Block.co can do for you:

Cyprus
28th October 24, Egkomi 2414
Nicosia, Cyprus
+357 70007828

enquiries@block.co

Athens
265 Mesogeion Avenue
15451 Neo Psychico
Athens, Greece

New York
303 Spring St.
New York, NY 10013
United States

Dubai
In collaboration with:

Dubai Centre for Risk and Innovation,
The British University in Dubai

Block 11, 1st and 2nd floor
Dubai International Academic City

PO Box 345015, Dubai, UAE

www.block.co