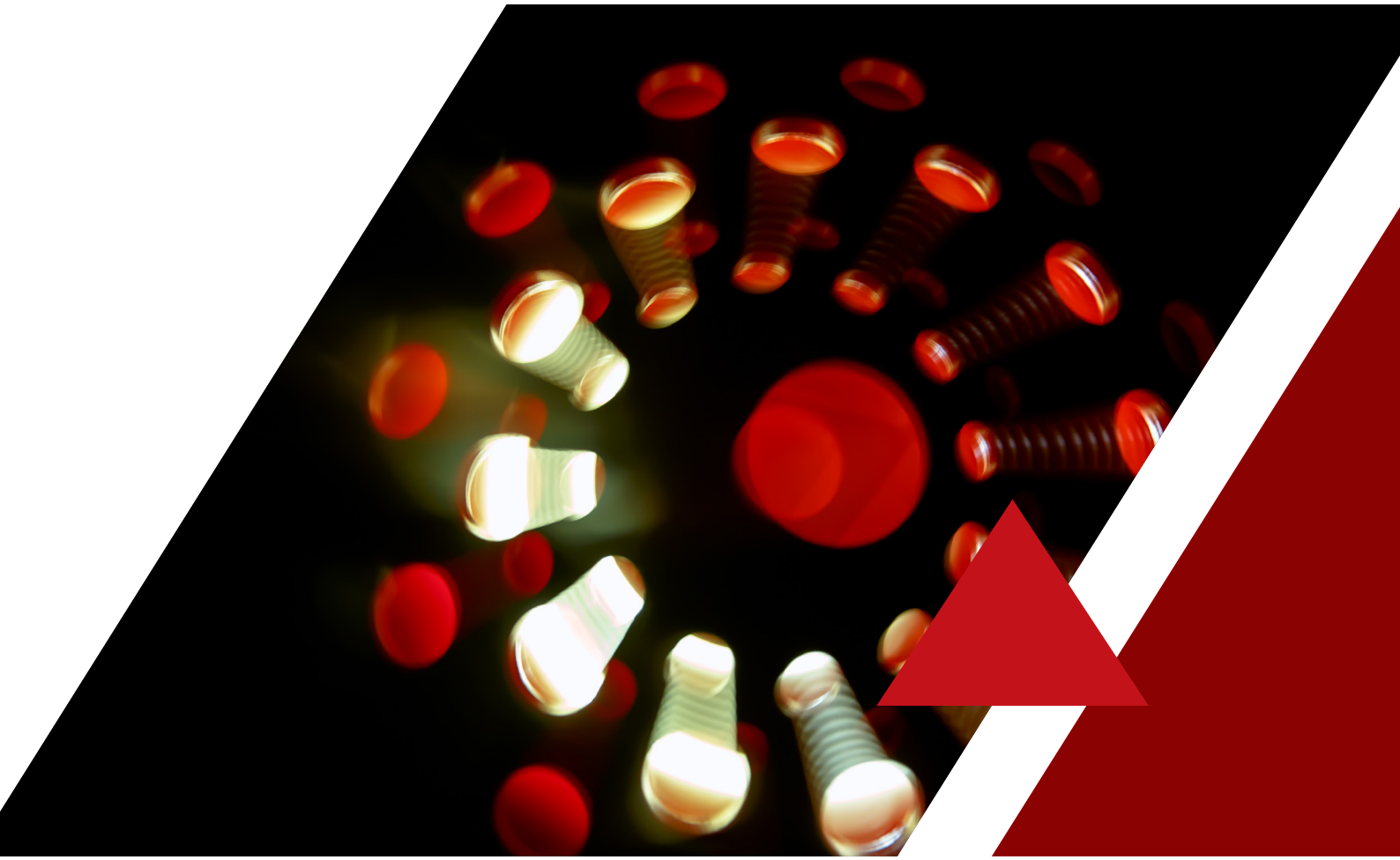
BLACKCHAIN CONSULTING

2020



BUSINESS BLOCKCHAINS

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BRING YOUR NEW IDEA INTO THE WORLD OF BLOCKCHAIN

Giovanni Casagrande,
The Co - Founder

"Passion is the key essential force that drives our success. It determines everything that we think"

INTRODUCTION

BUSINESS BLOCKCHAINS

There are two main applications of blockchain:

• Trading and managing cryptocurrencies like Bitcoin
• Managing transactions related to trade & commerce, including finance processes like payables, receivables, and compliance.

Blockchains that fall under the 2nd category is considered to be as business blockchains.

To help reinvent how transactions are managed, business blockchains are being used. Use of business blockchains enables real-time operations by cutting time & costs out of almost any process, while ensuring high degree of accuracy and control, with much less risk than many alternatives. Using low-cost automated mechanisms, the blockchain is able to perform record keeping. They enable asset transfer through secure, real-time methods. And they provide governance in the form of smart contracts. Smart contracts enforce contract terms such as payment, and thus enable greater trust to the record keeping.

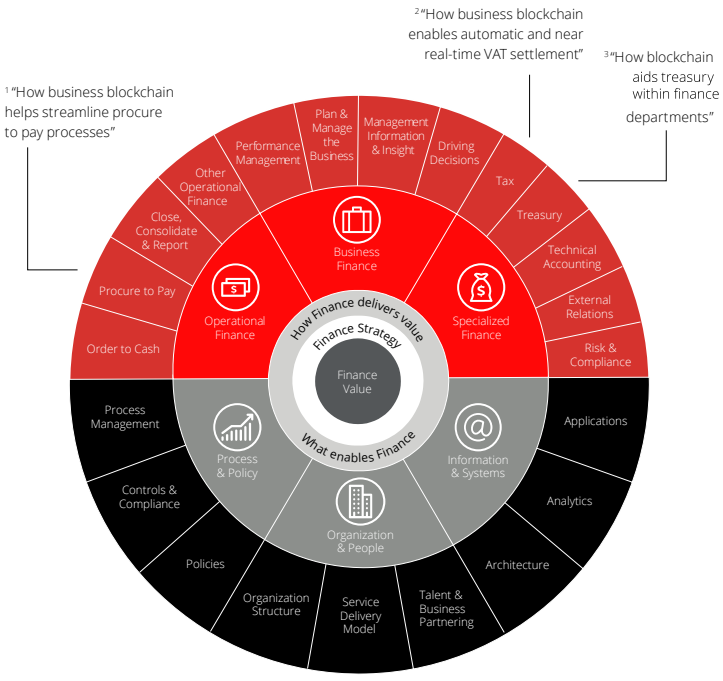
There are some common finance focused applications of blockchain, such as procure-to-pay, order-to-cash, trade finance, intercompany transactions, and reconciliation. There are some process that entend beying Finance and can be streamlined using blockchain technology, process such as supply chain management, asset tracking, warranty service, and regulatory compliance. Although, operations of business blockchains can be fully standalone, but in order to yeild more value from the technology, they may be combined with other technologies, such as IoT - Internet of Things, to reconstruct an entire end to end process.

There was a recent global blockchain survey conducted by Deloitte in 2019 which showed that businesses see compelling use-cases with blockchain as an enabler. The survey showed the following :

- 91% of respondents believed they would achieve measurable, verifiable return on blockchain investments within 5 years.
- Respondents' overall attitudes toward blockchain have strengthened meaningfully with 83% seeing compelling use cases
- 86% or more of respondents agreed with each of the following statements: -

- "Blockchain can enhance our integration toward more "touchless" business processes"
- "Blockchain will enable new business functionalities and revenue streams in my industry"

Lets take a deep dive into three use cases of blockchains in Finance1: Streamlining the procure-to-pay process2, enabling automatic and near real-time VAT settlements, and aiding3 treasury within Finance departments.

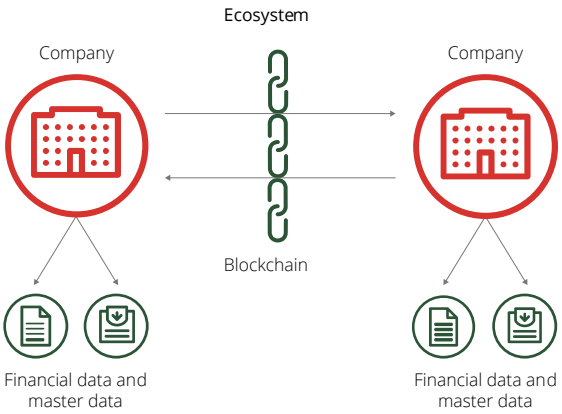


HOW BUSINESS BLOCKCHAIN HELPS STREAMLINE PROCURE TO PAY PROCESSES

By improving communication between entities and their individual systems, business blockchains will help companies overcome challenges in the procure to pay (P2P) process.

Deloitte reported that they typically see P2P process improvements in a project within company themselves and with little focus on collaboration with external stake holders. In theory, the communication between stakeholders during the process should be simple with existing tools provided in today's world.

Well but in reality, the process contains hassles and are time-consuming. One in each of their individual ERP system - leads to issues because the buyer and the seller operate with different sources of the same truth. Due to this, there are high chances of inconsistent information between stakeholder and their systems, that may further result in increased costs or wasted time on controlling and reconciliation.



Business blockchains for finance have been seen as an enable that creates a transparent communication platform with verified and aligned data across entities. A distributed database that provides a unique single source of truth between buyer and seller, which can help overcome communication challenges.

One single source of truth between buyer and seller enabled by a shared and distributed platform and an enclosed record of transactions

It is unavoidable that information is not aligned in a company, especially in the corporate world where information is decentralised across companies. Manual registrations of information from e-mails may give birth to inconsistency between databases - missing updates of master data can also lead to such issues.

Business blockchains on the other hand are distributed databases shared between participants. Shared in real-time, blockchains consequently provide a full and verified record of transactions in a chronological format - keeping in mind that blockchains only appends data, not changes, consent materializes across the network.

Here is what Deloitte said about implementing blockchain as their own P2P process:

« If we were to use blockchain on our own P2P process in Deloitte, we would enter the number of hours worked on the client for the month on the blockchain as a proposal for an invoice. When the client accepts the number of hours, the hours are posted to the blockchain, and the smart contract (explained in the following) executes the invoice creation based on the agreed hours and prices «

A well known issue in P2P is - review and detection of mismatches between purchase order and sales confirmation before or upon delivery of goods. Problems such as increased costs or delay in production may happen when errors are detected late ---

HOW BUSINESS BLOCKCHAIN HELPS STREAMLINE PROCURE TO PAY PROCESSES

due to miscommunication between two entities. Blockchain can counter this issue, by using business blockchains to agree on the details of the order, automated trigger points can be created on the blockchain based on the agreed data, thereby removing the risk of a misaligned confirmation.

Additionally, there is a possibility to use smart contracts in business blockchains. With smart contracts manual errors can be eliminated by automating actions and validation and can execute data transfers to the stakeholder's ERP systems. In essence, smart contracts can be said as macros running on the blockchain - that perform actions based on certain trigger points or when certain conditions are met, for example payment in 15 days.

Execution of data transfer to the ERP systems happens via smart contracts when buyer and seller agree on for instance price and payment terms. The entities will now have the correct, updated master data in their systems to base their orders and pricing on, removing the risk of errors originating from master data that is either poor or has not been updated. This also optimises the reconciliation process afterwards.

There are two mains groups of challenges that we face currently, there are : Human & Technical. Trust, governance and change concerns the human challenges. Close collaboration and trust between two or more entities are needed to work on the project together and share data. The stakeholders must trust the encryption and security built on the blockchain, as there may be a fear that some of the data in the blockchain could reveal business models or close partners. The technology provides us with new possibilities, but it requires a change in our mindset regarding sharing and collaboration.

There are still some hurdle that needs overcoming - such as agreement in relation to governance and engagement rules between participants. Increase in the number of participants leads to difficult in enforcing engagement rules. However, the possibility of blockchain is now fuelling the discussion of what the joint governance models could look like. For employees involved in the P2P process, there is also a significant change involved, as their ways of working will change.

On a technical level, integration between the blockchain and ERP platforms should also be addressed, as the connection needs to be able to function with a variety of ERP versions as well as be able to handle the potential volume of transactions.

HOW BUSINESS BLOCKCHAIN ENABLES AUTOMATIC AND NEAR REAL-TIME VAT SETTLEMENT

BUSINESS BLOCKCHAIN CAN AUTOMATE VAT SETTLEMENT AND REPORTING. THIS IS ACHIEVED BY DISTRIBUTING VALIDATED INVOICES BETWEEN RELEVANT PARTIES (E.G. BUYER, SELLER AND TAX AUTHORITIES) USING BLOCKCHAIN.

Billions are euros are drained by National governments in VAT and some increasing compliance requirements. One of the key revenue drives for tax authorities are Value added tax and it is also the largest contribution to governmental budgets. Therefore, the incentive to search for ways of more effective VAT collection is big. Globally, we see a trend that governments demand more transparency forcing companies to report granular as line items in invoices. Brazil, Mexico and Hungary has the most advanced solutions, with a clear global trend where governments demand transparency, and in real-time some tax authorities even demand transparency.

VAT is a fraught with a variety of problems, on both international and national level. The process itself is highly reliant on business, expecting the businesses to correctly settle the amount of VAT and submit it to tax authorities. Additionally, the settlement of VAT is done over a fixed period of time, for example, monthly payment or quarterly where misalignment on which dates count (e.g. invoice date or posting date) increases complexity. Due to this the controlling of VAT data is difficult and troublesome, as each company has their own ledger and time their VAT settling differently.

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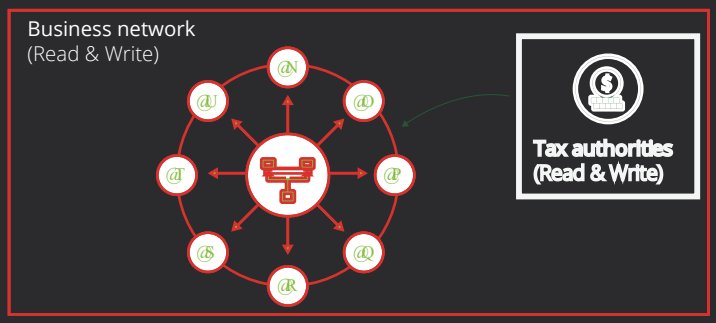

Business networks work as semi-closed environments were participants share and validate data.
This setup could help avoid situations where:
1. VAT reporting relies on individual businesses to correctly settle VAT amounts (e.g. in excel).
2. VAT statements are submitted in discrete time (e.g. monthly or quarterly submissions).
3. Risk of wrong or fraudulent submissions will be highly reduced.

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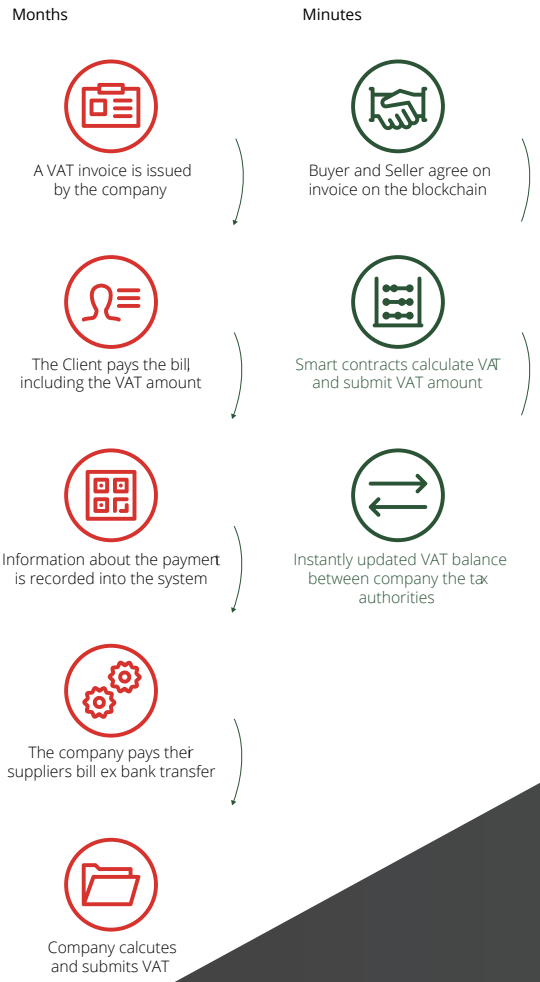
HOW WOULD AN AUTOMATED VAT REPORTING SETUP LOOK LIKE?

Its is estimated that the tax authorities receive information about the transaction weeks or months after creation. For this delay, it is troublesome for the authorities to detect fraud etc. For the companies the process means that the gains in refunded VAT are compared to the effort in documenting and applying for it.

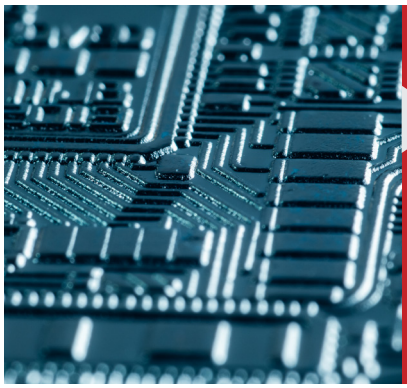
In the proposed setup illustrated below, two point validated invoice with data and information will be aligned as both buyer and and seller will report the same VAT information. Everything from the final invoice to the instant update of VAT balances are done automatically and stored digitally on the blockchain with a clear and transparent audit trial.



What is holding us back?

1. VAT legislation is highly complex.
2. Cross border trades are notoriously difficult in a VAT perspective.
3. Business Blockchain requires strong governance principles.
4. Who should own the solution? Why should companies participate?

HOW BUSINESS BLOCKCHAIN ENABLES AUTOMATIC AND NEAR REAL-TIME VAT SETTLEMENT



By bringing all parties across companies into a single platform to allow sharing of real-rime information and automated intercompany reconciliation, blockchain can enhance corporate treasury functions.

A survey done by Deloitte - Global Corporate Treasury - revealed many key challenges in treasury. Three of the key challenges experienced by respondents(200 corporates participated) were as follows:

- 52% said they face problems with FX volatility/fluctuations.
- Visibility into global operations, cash and financial exposures - 43%
- 40% of the respondents stated that they have problems with either cash repatriation or liquidity.

Here is the illustration that may help you to understand these challenges. Let's take a look at the processes of intercompany trade across borders. When there is an international trade, the products move country to country, the asset value of product is typically booked in the ERP system of the intercompany trade partner in the local currency. In this example below, the asset is created in Singapore in SGD. The asset will be sold to Germany (for furthur development) and then completed in Denmark.

Several challenges could arrive during the chain of transactions. As shown in the diagram, fluctuations in currency is one of these. Transactions are time consuming for modern treasury functions to reconcile even though transaction themselves are not difficult to handle. It is required for humans to make sure

Singapore	
Debit:	Products
Kredit:	100 SGD

›

Germany	
Debit:	Products
Kredit:	20 SGD
Debit:	13 EUR
Kredit:	Products
Profit:	2 SGD

›

Denmark	
Debit:	Products
Kredit:	13 EUR
Debit:	13 EUR
Kredit:	97 DKK
Loss:	1 EUR

that the books are properly aligned across companies - for every touch point in the company. The more touchpoints in the supply chain, the greater will be the time spent on reconciliation.

The customer experience the following problems when it comes to currency fluctuations and ERP systems:

- **The same FX rates are used in ERP systems across geographies or companies, but the value of products changes due to market volatility or fluctuations in the actual FX-rates.**
- **Different countries have different FX rates loaded in their ERP systems for the same currency pair, which leads to inconsistencies between accounts.**
- **Different parties across companies can also have different functional currencies in their ERP systems, which makes it difficult to reconcile transactions.**

CORPORATE COIN AS AN ENABLER FOR TREASURY

Blockchain technology is a tool for bringing all parties involved in intercompany settlement onto the same platform. This will allow one source of truth by way of a single currency in the form of a corporate coin (CC), facilitating treasury functions to become more efficient. A proposed solution follows below.

CCs can be created as an intercompany digital currency used for the settlement of intercompany transactions. Deloitte proposed a solution where all intercompany transactions are settled with CCs on a blockchain. To understand the solution, you can compare CCs to bank notes. Today, we use bank notes to settle transactions, and we imagine a set-up where intercompany transactions are being settled with a digital fiat currency that is connected (tokenised) to the liquid assets in the company.
Lets imagine that the exchange rate – and thus the value – of the CC is fixed to a common currency used in the company, for example the company's operating or reporting currency. Fixing the CC's value makes it easier to monitor risk as well as reconciling accounts. Some companies have already implemented a similar solution where transactions are settled by way of an in-house banking model. While this solution solves some of the existing challenges, it still falls short in other areas of the intercompany trade process:

- The solution does not eliminate FX risk.
- The solution needs monitoring to ensure accordance with transfer pricing regulations.
- The solution does not always make it easier to monitor FX risk.

On a blockchain, both parties need to agree on a transaction before it is recorded. The process is simplified with smart contracts enforcing an agreed set of fixed rules within the companies. All transactions on the blockchain are distributed to all parties in the company and are immutable. Since all transactions are visible on a need-to-know basis, a common source of truth appears within the companies, and miscommunication is minimised.

We see business blockchain for treasury as an enabler for creating a transparent communication platform with verified and aligned data across multiple entities - a distributed database that provides a unique single source of truth between parties across companies. Moving products internationally becomes simpler, as the asset's value remains the same when being moved across companies with its value in CCs. Since all transactions are settled in CCs, there is no profit or loss that needs to be accounted for.

By using the same currency for all transactions intercompany, exposure to FX risk is limited. Due to the smart contracts imposed on the blockchain system, whenever a company in another country receives a product, it automatically sends the appropriate number of
CCs. This solution limits the exchange of fiat currencies, which leads to a decreased need for clearing and settlement by external banks.

This has several benefits:

- It improves liquidity, as money remains in the company.
- The time gap between transactions is reduced, since there is no need for a bank as an intermediary for these transactions.
- Exchange and bank fees are minimised, as the volume of transactions is reduced.
- Lastly, monitoring FX risk becomes significantly easier. Exposure to foreign currencies is limited, since all transactions are settled with CCs. Instead of exchanging fiat currency on a per-transaction basis, it can be exchanged on a monthly or yearly basis.

MEET THE TEAM

Giacomo Arcaro
Co-Founder & Growth Hacker

He has 15 years' experience in growth hacking, digital strategy, startup and business development. He has advised over 150 startups and has 50 managed employees into a XII Century Church in Italy for the European biggest growth hacking company. He holds the title of 'Amazon Best Seller Author' and is been known to be one of the 'Most Influencial Blockchain Evangelist' with +200 conferences all over the world.

Giovanni Casagrande
Co-Founder & ICO/IEO/STO Advisor

A known name in the world of cryptocurrency. He has been in the marketing industry for well over 20 years and have switched to the cryptocurrency industry in 2014. He's a writer, public speaker, investor and Marketing / Growth Hacking advisor in more than 100 successfully projects. His specialty was Economics in the University of Bologna and the knowledge, experience gathered from there has helped him to manage/help many businesses in the industry. 4 years ago he founded Black Marketing Guru, a successfully Growth Hacking startup in Italy.

Eloisa Marchesoni
Token Architect

Known as the youngest and most influential Blockchain expert in the field. She is an Italian-American who first started out as a startupper in the AI and IT business, while still finishing her Economics and Management studies in Bocconi. Eloisa is a renowned author, public speaker, and biz-dev, catering startups and companies wanting to innovate. Currently being the Chapter Director of Bocconi University Startup Grind Chapter, she made valuable connections and became a part of some of the main blockchain associations around the world, namely The Blockchain Council and The NYC Women in Blockchain. She will be featured in the Forbes Italy 30 Under 30 most influential entrepreneurs in 2020.

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