

“The biggest area in which blockchain can help promote human rights is digital identity”

Entretien avec *Julio Alejandro* • **Président directeur général de Humanitarian Blockchain**

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While blockchain technology is often associated with bitcoin and other cryptocurrencies, it is only the tip of the iceberg. The interest it arouses is motivated by its many other possible applications in the fields of insurance, healthcare, real estate, transport, music and even electoral voting. But blockchain technology is taking root in the world of humanitarian aid as well.

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If done with collaboration, ethics, and ingenuity, blockchain can revolutionise humanitarian response. Some movements, UN agencies, non-governmental organisations and enterprises are leading the way. The ID2020 Alliance<sup>1</sup>, in cooperation with Microsoft, is creating a system allowing people to register their identity documents in a blockchain database but also to provide digital IDs to millions of undocumented or stateless people who lack access to basic government and financial services. In Lebanon, Aid:Tech<sup>2</sup> provides e-vouchers in a blockchain to Syrian refugees in camps, allowing them to purchase goods in a localised refugee economy and increasing their self-reliance in these camps. The United Nations World Food Programme (WFP)<sup>3</sup> has tested a pilot project in Jordan’s Azraq refugee camp, where Syrian refugees can use iris-identification technology at a cash register to buy food and supplies. Handshake<sup>4</sup> is designing a system for fair and legal labour contracts for international migrant workers, in an effort to minimise the prevalence of exploitation and insecurity while ensuring human rights and fair wages for work.

Governments have started to implement this technology in their own programmes, such as for managing and organising land titles in Georgia<sup>5</sup>; digital identities of refugees in Finland<sup>6</sup>; health records in Estonia<sup>7</sup>; and public governance systems in the United Arab Emirates<sup>8</sup>. However, the expansion of blockchain is not without risk. Besides the technical constraints, it poses some basic questions about governance and data protection.

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<sup>1</sup> <https://id2020.org>

<sup>2</sup> <https://aid.technology>

<sup>3</sup> <http://innovation.wfp.org/project/building-blocks>

<sup>4</sup> <http://handshake.tech/index.html>

<sup>5</sup> “The First Government To Secure Land Titles On The Bitcoin Blockchain Expands Project”, *Forbes*, 7 February 2017, [www.forbes.com/sites/laurashin/2017/02/07/the-first-government-to-secure-land-titles-on-the-bitcoin-blockchain-expands-project/#70fbc4c24dcd](http://www.forbes.com/sites/laurashin/2017/02/07/the-first-government-to-secure-land-titles-on-the-bitcoin-blockchain-expands-project/#70fbc4c24dcd)

<sup>6</sup> “Finland Turns to Blockchain to Help Unbanked Refugees”, *CCN*, 8 September 2017, [www.ccn.com/finns-turn-to-blockchain-to-help-unbanked-refugees-enter-the-digital-economy](http://www.ccn.com/finns-turn-to-blockchain-to-help-unbanked-refugees-enter-the-digital-economy)

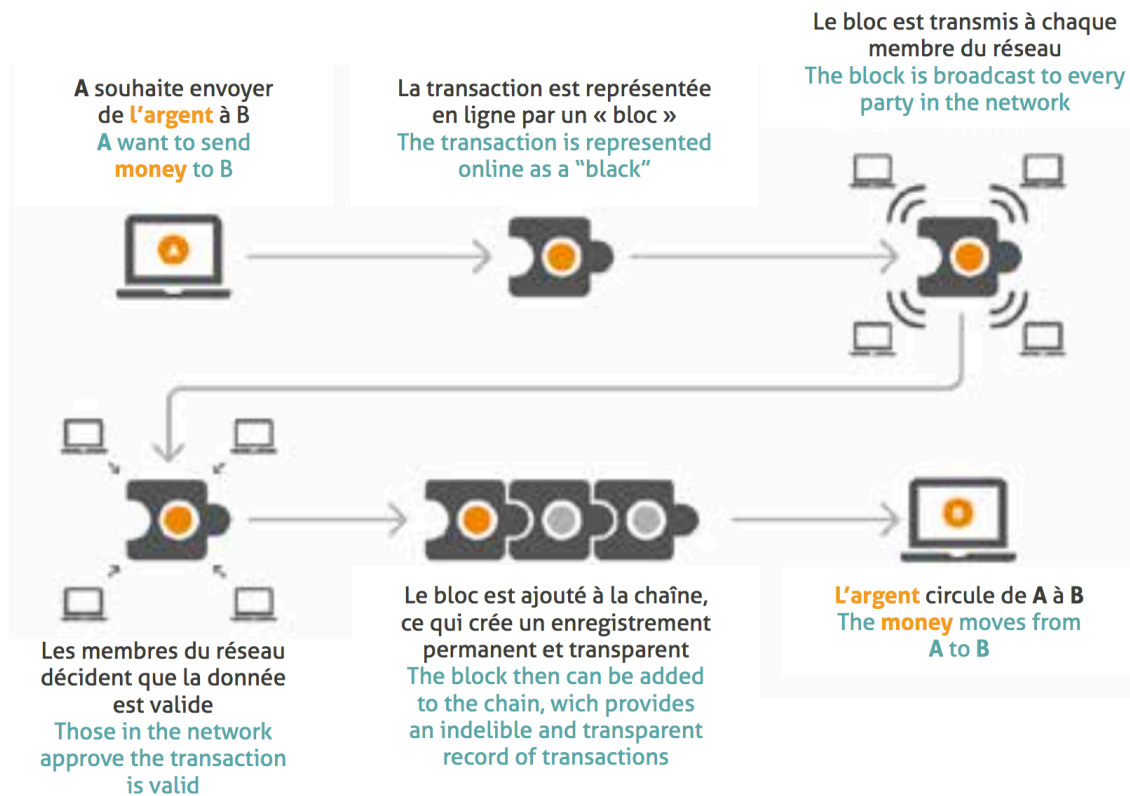
<sup>7</sup> Jonathon Marshall, “Estonia prescribes blockchain for healthcare data security”, *PWC*, 16 March 2017, [http://pwc.blogs.com/health\\_matters/2017/03/estonia-prescribes-blockchain-for-healthcare-data-security.html](http://pwc.blogs.com/health_matters/2017/03/estonia-prescribes-blockchain-for-healthcare-data-security.html)

<sup>8</sup> “Dubai launches Blockchain strategy to become paperless by 2020”, *Gulf News Government*, 5 October 2016, <https://gulfnnews.com/news/uae/government/dubai-launches-blockchain-strategy-to-become-paperless-by-2020-1.1907790>

### What is blockchain technology?

Blockchain technology is supposed to be the second digital revolution, after that of the Internet. A blockchain is a continuously growing list of records, called “blocks”, which are linked and secured using cryptography. By design, a blockchain is inherently resistant to modification of the data. It is an open, decentralised and distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way. The first blockchain was conceptualised by a person (or group of people) known as Satoshi Nakamoto in 2008 to implement the cryptocurrency bitcoin.

### How information moves through distributed ledgers in “blocks”, using money as an example



Source de l'image: Thomson Reuters<sup>9</sup>

Image from Thomson Reuters<sup>9</sup>

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**Humanitarian Alternatives** – *Humanitarian Blockchain* was described as “the world’s first DIY e-governance consultancy project that is attempting to tackle social and global problems by using blockchain

<sup>9</sup> <https://blogs.thomsonreuters.com/answeron/blockchain-impact-tax-and-accounting-industry>

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technology”<sup>10</sup>. For many people, all these concepts are difficult to understand. Can you explain what it means in simple, concrete terms and tell us the story behind Humanitarian Blockchain?

**Julio Alejandro** – I am motivated to stop systems of discrimination. After studying at Sciences Po-Paris and ITESM Mexico, I moved to Chicago, working as a Foreign Correspondent for *Excelsior* and *La Jornada* newspapers, covering immigration and deportation topics, white supremacists, the Black Lives Matters movement, feminism and sexual abuse of minorities. So, I come from a very sociological and political background. From there, I analysed and said: well this is failing. I’m not being efficient, and change at a systemic level is not happening. So how and why could we try something other than “media” to change the world? Why don’t I give technology a try? A friend sent me a few bitcoins, and that’s where the story began in 2014 in New Hampshire. I moved to London to become an entrepreneur for social change. I needed to know two things first: to understand overall how finance works, and how technology works. That’s when I started looking into blockchain. I came to the realisation that technology was neutral. Technology does not discriminate according to somebody’s gender or nationality; it’s an algorithm, it’s mathematically proved, and it contains a degree of sophistication that is difficult for everyday users to understand. But once you get into the ecosystem, I find it more productive and more efficient than working within the public or human rights sector. That’s why I’ve decided to build blockchain solutions, blockchain tools, because I think that we’re trying to solve the same problems just with a very different approach.

In simple terms, what is blockchain technology? It is what Linux was to the Internet 20 years ago. If we’d been asked “what is the Internet?” 20 or 30 years ago, we would have said “it creates emails”. What’s an email? We’d say it creates websites. What’s a website? It creates social media. What’s social media? Well, it creates companies that use social media like Google, Facebook, Twitter and LinkedIn. So, blockchain is a foundational technology. It’s a set of decentralised underlying architecture, protocols and networks that exist to create new marketplaces, new value markets that do not yet exist—like Amazon or Uber, or the collaborative economy that didn’t exist 5, 10 or 20 years ago. So what people are creating at the moment are protocols and networks, scalability and the Internet’s technical backend so we can enter a new phase of the Internet. Blockchain is set to be more important than the Internet itself.

**H.A.** – *How did you set up your organisation?*

**J.A.** – There were five of us. We started as a not-for-profit, human rights organisation, a globally based NGO with centres in the United States and Mexico, Estonia, the UK and France. But we are now shifting more towards a consultancy model. One of our most successful pilot projects in 2016 was to create solutions for the refugees in Calais, such as securing their money and identities. By providing them with a Visa Bitcoin debit card, governments wouldn’t be allowed to seize their money or control it, as it would be in bitcoin. The refugees would be able to spend their money anywhere Visa cards are accepted, i.e. 50 million places in the world now. On top of that, the transaction fees would be lower. But to be clear, it was a pilot project, it was not implemented. Blockchain technology is not yet ready to use. The ecosystem is too expensive. Small contracts are quite “hackable”; they’re very insecure at the moment. And even private ledger is quite expensive to use. But we were the first ones to create awareness that these solutions could be implemented for refugees. What I am proud of is that we created the design of the implementation: we became a school of thought, a point of reference. Currently, there are no

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<sup>10</sup> “Blockchain Tech Helps Coffee Farmers Make Fair Gains”, *CCN*, 13 April 2017, <https://www.ccn.com/blockchain-tech-helps-coffee-farmers-make-fair-gains>

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successful blockchain or bitcoin projects within the human rights sector. Once you analyse what has actually been done, it's extremely limited.

**H.A.** – *What is the added value of blockchain technology in the humanitarian sector? What would be the incentive for humanitarian actors to embrace this new technology?*

**J.A.** – The humanitarian field in blockchain needs to have a marketplace. Not of ideas, but feasible technical solutions: design, implementation and execution. We need developers, not simple ideas. The not-for-profit sector will no doubt be the last to adopt blockchain, simply because they don't have an entrepreneurial mindset. Yet, the incentive is quite high for anyone that knows how to create value in society. The biggest area in which blockchain can help promote human rights is digital identity. It's harder for citizens from Syria to trade and engage in business with a Syrian passport than someone with an Austrian or German passport. So, by using digital identity, people would have a credit system similar to the way you rate your Uber driver with five stars or one star depending on whether he's a good or a bad driver. You would not be judged by your passport, but by the credit system, by the positive reviews and transactions you've completed, and what other people think of you. It will thus empower minorities or categories of population that are being excluded because they're female, gay, bisexual or black to be valued as individuals. This is what non-legal digital identity means, and that's the first place where the human rights and humanitarian sectors can take action.

**H.A.** – *We better understand the promising aspects of blockchain, but let's think about the risks. As a matter of fact, it poses basic questions about governance and data protection. How can we prevent a terrorist or criminal organisation from taking advantage of this new technology for improper use?*

**J.A.** – Regulation is the enemy of entrepreneurship. Government and State regulation is the biggest nemesis of innovation, entrepreneurship, and start-ups. Technology is not responsible for the way it is used, and usually people from human rights or academic backgrounds tend to see a dystopian future, as in the series Black Mirror, which shows a very negative and pessimistic vision of humanity. If you have a USB stick, you can use it to illegally hack information, but people are not calling for the regulation of USB sticks. And to answer the question: let free, unregulated, decentralised, anonymous, untraceable, capitalistic organisations and people who have experience in building value solve the problems. The last people that should be intervening in its regulation are charities and not-for-profits. And the State should play no role at all, except stopping people from killing each other.

*Interview by Danielle Tan, co-editor of the Focus, 8 March 2018*

### Biography • Julio Alejandro

Julio Alejandro is in charge of Global Communications for Aeternity Blockchain and CEO and Founder of Jada Consulting “Taming Disruptive Technologies” and Humanitarian Blockchain. His work on global financial inclusion includes designing “Blockchain in Calais” (Fintech for Refugees) and “Machine Learning for Women” (for MENA women). He's a member of the board of World Future Foundation and of Bitnation. He is listed as one of the world's top 100 influential fintech leaders (Onalytica). Aeternity Blockchain – where he is also their Global Ambassador and company spokesperson – was founded in 2016 and has a market capitalisation of \$1.36 billion (April 2018).

## Humanitarian workers and blockchain: the need for proactive caution

*Pierre Gallien* • Codirecteur du Focus

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**B**lockchain has been presented as being the next great technological revolution, the impact of which might yet rival that of the Internet in the 1990s. And yet, whilst most people have no doubt heard the term, few actually understand its mechanisms or can explain the added value of such a technology. Its conceptual complexity is certainly an important obstacle to its expansion. Beyond the examples enumerated by Julio Alexandro in his interview and its promise for the development of a new kind of market, it is especially important to understand the potential paradigm shift created by a technology like blockchain, and to calmly and collectively study the role which it could play in a humanitarian context.

It thus seems rather auspicious that the humanitarian world remains cautious about actually using the technology. As highlighted by the founder and CEO of the start-up Humanitarian Blockchain, the non-profit sector is not motivated by a spirit of entrepreneurship in which risks are taken in proportion to potential gains. When it comes to saving lives and protecting people in already difficult situations, it is best not to tinker around with poorly mastered technologies.

And yet this caution ought not to be an excuse for inaction, or for rejecting this innovation wholesale and waiting for “entrepreneurs” to produce ready-to-use services for humanitarian aid. In order to remain engaged with these developments, there is an urgent need to reflect collectively and to think through the possible uses of blockchain technology in the context of development and/or humanitarian aid.

To be efficient, it is imperative that this “thought experiment” bring together people with a humanitarian background and blockchain experts in order to address needs on the one hand, and technology on the other. A monopoly of one or the other of these groups would inevitably lead to technological drift or to a mere replication of existing practices without really examining the potential.

Beyond the technological aspects, blockchain technology enables a move from a logic of information management to a logic of transaction (value) management, where the guarantee of the exchange is no longer given to a trusted third party but is distributed between the different nodes in the system. Once a piece of information, exchange or contract is entered into a blockchain, its integrity is guaranteed by its nature in distributed networks. There is therefore no further need for trusted third parties to guarantee the transaction, which is left to an algorithm.

Bitland, an organisation based in Ghana, is often given as an example to illustrate the merits of blockchain beyond cryptocurrencies. This organisation has set itself the task of enabling institutions and (private) individuals who so wish to register their land titles on a blockchain. In Africa, where large areas of rural land are absent from official land registers, we can see the relevance of a project which can guarantee the transparency and immutability of the information registered on the blockchain. This example raises at least four questions, which enable us to move beyond the Ghanaian case study.

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### **The veracity of the input information**

Who is the guarantor for the accuracy of the registered information? Whether land deeds or intellectual property, the veracity of the information fed into a blockchain must be guaranteed. In a system which offers to manage the digital identity of an individual, for example, it is less important to know whether the information managed by the system is protected, than to be certain that the information entered by organisation A or B into the system is reliable. In the case of Bitland example, the project does not present itself as an alternative to government, but rather as a complementary service, a way for it to manage its land registry, since it ultimately remains the guarantor of the veracity of the information.

### **Dependence on the system and Internet access**

It is one thing to guarantee a piece of information in a system, but the most important thing is to be able to access it at the appropriate time. Although Internet access is constantly expanding, we must be aware that some parts of the globe still have only very fragmented access to this resource.

### **The fragility of access for the user**

Moreover, for the end user, access to the account is most often protected by an access code. Trust in the system's capacity to resist attack is certainly crucial, but blockchains must also be able to give guarantees and protect their users against identity theft, or at the very least ensure that a given piece of information in a blockchain would not be lost or forgotten with the individual access code.

### **The longevity and uniqueness of services**

Finally, as a humanitarian organisation, we are concerned with the sustainability of the services we offer. This question is all the more important when it comes to offering a certain form of value management and management of dematerialised goods. It is best to be able to guarantee the end-user that their "invested" goods will not disappear at the end of the project. In the same way, a large number of blockchains currently see themselves as complements to State services, as is the case for the Bitland project. One of the issues of dematerialisation and digital development is ensuring interoperability between systems. How will the different blockchain initiatives which currently abound manage to achieve functional coherence? How can we avoid each new project idea being constructed without interaction with other similar projects? This remains a major challenge.

Blockchain technology has existed now for more than ten years, but it has only been in the last three that we have begun to see its potential for applications other than cryptocurrencies. There is no doubt that all of these questions will gradually find answers, and that new use cases will be identified and developed.

In response to these trends (although what is true for blockchain is also true for other innovative technologies, such as artificial intelligence or robotics), humanitarian actors can adopt a wait-and-see attitude and follow what "entrepreneurial" spirits like Julio Alejandro think up as services. In this case, the risk is not benefiting from years of evaluation, reflection, construction, and interrogation of our own practices.

Another possible attitude would be to take a proactive stance and organise an ethical, technical and operational reflection on the subject. In this case, proceeding by iteration and progressive increments seems preferable to imagining revolutionary changes from the outset.

Blockchains provide an opportunity to rethink the organisation of transactions, interactions and relationships within the humanitarian sector, and the trust that exists between different actors. To achieve this, we must start by better identifying the transactions within an organisation, between an organisation and its partners, or between humanitarian organisations from the same sector. The reflection must be pursued concerning the logistical chain, the management of contracts, partnership engagements and a better coordination of information... There is endless food for thought. It is up to us to find the will and capacity to seize the opportunity.

*Translated from the French by Juliet Powys*

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