The **Blockchain Innovator's** Handbook

A leader's guide to understanding, adopting and succeeding with this disruptive technology

Conor Svensson

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A Future Tale

So far I have discussed why blockchain is such a powerful force for change. In order to further solidify the ways in which it can affect everyday life, it's helpful to look to the future and highlight ways in which it can become embedded in our lives behind the scenes, supporting everything from virtual reality to electric vehicle charging. In this chapter I unpack what parts of this future could look like.

A day in the life

It's been just over ten years since the global Covid-19 pandemic, and you've woken up in your hotel room in Singapore. You reach for your phone to check for messages.

Your friend Leyla has sent you a message about the virtual reality gig you attended last night. Using your VR headset, you were there up close with the Rolling Stones as they performed *Jumping' Jack Flash* for the very last time. You spent that little bit extra to get an exclusive ticket, which lives permanently in your digital wallet.

This ticket is not only proof that you attended this milestone event, but is also an exclusive collectable that enables the holder to replay that event and bring their friends with them whenever they want. Down the line, if you decide you'd like someone else to relive that experience you can sell it on via a digital collectables marketplace. Regardless of how much you sell it for, a set percentage of the sale price is split between the band and the event organisers, and the rest is yours after the marketplace has taken its fee.

Most of the possessions you have purchased lately sit in your digital wallet. It's so much easier having everything in one place rather than spread across a series of emails, websites and platforms, as used to be the case a decade ago.

You decide to listen to some music to get yourself ready for the day ahead; you see that your favourite rapper, Nas, has released a new album that you want to check out. As you start listening, details of this play are being recorded and you can see how much he is being paid as you listen to his latest album. Although

you don't think it's his best work, you keep it playing to maximise the royalties he receives.

You need to check out of your hotel today, and you're struck by how much easier it is now then it used to be. You just touch your smart watch on a reader when you leave the room to lock the door, then again when you leave the hotel. Your smart watch is connected to your digital wallet, which contains your digital identity. You used your digital identity to enter into an agreement with the hotel for the booking, and the funds for the trip were held in escrow via a smart contract until you checked out, when they were automatically released to the hotel at the end of your stay.

Outside the hotel a fleet of self-driving taxis is plugged into chargers, waiting to take guests where they need to go. You get into one, which initiates a disconnection from the charging point. The charging point notifies the taxi of how much the charging session cost and takes payment for the session automatically. The charging cable is then released and the taxi heads off to the airport.

En route the taxi automatically pays a series of tolls for travelling on the express highway to the airport; again, these are made using micropayments, this time communicating over a 5 G mobile network to the agency responsible for maintaining the highways in Singapore.

Once you reach the airport, you are notified of the total cost of the journey, including tolls, which you approve. Unlike ten years previously, there is no payment provider here – payment goes out of your digital wallet directly to the taxi operator.

You already have your plane ticket sitting in your digital wallet, so you head straight to security and passport control, where you make use of your digital identity again.

Your digital identity is also linked to your digital passport – long gone are the days of having to show an actual passport. Now, all you have to do is scan a QR code at passport control using your digital wallet and approve sending a message to prove who you are. The facial recognition software on your phone's camera is used to prove that the person scanning the code is the real person associated with that identity. You're then free to head into the departure lounge.

You grab a coffee, which tastes surprisingly good for an airport coffee. There's a QR code on the cup that you scan with your phone. This takes you to a site where you can see that the beans came from the district of Lintong Nihuta, to the south-west of Lake Toba on the Indonesian island of Sumatra, with pictures of the family who harvested them. From there the beans travelled to Singapore, where they were roasted only two weeks ago before being distributed to the coffee shop you're at now. Sure, it's only a cup of coffee but

when it tastes this good, it's good to know what made it the way it is.

While sitting around, you take a quick look at your asset portfolio. You have holdings in various digital assets that are all generating incomes of 5–15% annually, regardless of how small an amount you have of them. Some of these are riskier than others, but they balance out. You also hold digital dollars, euros and pounds, which are all generating yields at the lower end of this range, but way better than what your bank used to give you.

Some income has come through from the rental property you own in London with your sister. You have a smart contract that receives the rent each month and automatically splits the revenue between you both, and it shows up in your digital wallet. You take some of the income and invest it in a blockchain start-up that is providing provenance of minerals on Mars – the first manned flight is planned a few years from now.

Your airline sends you a message about how you'd like to offset the carbon emissions from your flight. To speed up the transition to net-zero emissions in the airline industry, paying for offsets is a mandatory component of all ticket sales. These offsets are created by a number of different clean energy projects with their origin tracked on a blockchain. You select a wind power project in Madhya Pradesh, India that will ultimately offset 1.23 million tonnes of carbon dioxide equivalent (tCO_2e)

over seven years. In your airline's app, you can see that 4.66 digital tCO_2e tokens have been purchased from this project, assigned to your digital wallet to offset the 4.66 tonnes of CO_2 generated by the flight.

You check into social media to get some commentary from the people that inspire with no-BS advice and thoughts. You tip some of them with a micro-transaction as a thank-you for keeping you inspired. It used to be so expensive to do this back when you had to use credit cards – there was a minimum fee of 50 cents for the vendors – whereas now it's nice to be able to send fractions of a cent as easily as you like a post on social media.

You also realise that your travel insurance policy is coming up for renewal. You had to make a few claims in the past year due to missed flights, but prior to that claims were minimal. When you provide your digital ID to other insurers, you're able to easily share your claim records for the past five years and they see that this past year has been different to those prior, so it's not too difficult to find a firm to renew with.

You're going to have a long flight back to London, so rather than risk the choppy internet connectivity you still get on aeroplanes (but hey, at least they don't still try to charge you for it), you head back online to a digital marketplace to purchase some second-hand clothes for your avatar in *Grand Theft Auto 7*. You find some awesome retro Air-Max trainers that were part of a limited digital edition issued by Nike; you can't

believe someone is happy to sell them. Your avatar is getting the wardrobe you wish you could have.

You're now feeling all set for your flight; you've got a few hours to yourself where you can immerse yourself in *Grand Theft Auto 7*, before you drift off to sleep and wake up in London, ready to get back to the family.

As challenging as framing the future can be, many of the above scenarios are from a future that is in fact far closer than you think. Companies have already made significant progress in many of the innovations we describe here, in significant part due to the use of blockchain technology.

Summary

Blockchain will have an impact on people's everyday lives in the future. Some of the places it may do this include:

- Provenance of everyday goods such coffee
- Tickets for travel
- Electronic payments
- Investing
- Offsetting emissions
- Virtual reality and gaming
- Payment of music royalties

The Author

Conor is the founder and CEO of Web3 Labs, a blockchain technology company. He is also the host of the *Blockchain Innovators* podcast.

Web3 Labs works with large organisations to deliver applications that improve trust and authenticity of data and assets. Its clients include Microsoft, J.P. Morgan and Vodafone. It also works with leading blockchain companies and protocols to develop their ecosystems and platforms. The organisations Web3 Labs has worked with include ConsenSys, R3, the Open Application Network, the Ethereum Foundation and ICON.

Web3 Labs was a finalist in Microsoft's Partner of the Year 2020 Awards.

Conor is the former chair of the standards working group at the Enterprise Ethereum Alliance, responsible for publishing the world's first Enterprise Ethereum standards. He is currently vice-chair of the InterWork Framework Working Group at the Global Blockchain Business Council, serves on the Baseline Protocol Technical Steering Committee and is involved in the Hyperledger Climate Accounting Special Interest Group.

He originally stumbled upon blockchain in 2016 when he started learning about Ethereum, first by building a mining rig, then by authoring the blockchain integration library Web3j, which provides the glue for business applications and Android phones to work with the Ethereum blockchain. The library is nearly five years old and approaching 1 million downloads, thanks to usage by companies like J.P. Morgan, Opera and Samsung.

Outside work, when he's not hanging out with his wife and kids, Conor keeps active through a combination of Brazilian jiu-jitsu, running, surfing and stand-up paddle boarding. He also loves sci-fi, fantasy and playing the drums.

He can be found on LinkedIn and Twitter.

linkedin.com/in/ConorSvensson

@ConorSvensson