

Market View: Today b20 has a regular update of the monthly currency weights, and so do our weights. Since the new dogecoin was not on the coin exchange, we treated him specially, assigning the dogecoin weight to 0. Based on the market trends of the past five days, we continue to over-match the xrp Ripple, while we are cautious about stabilizing the currency usdt, giving a lower weight.

Dog Coin (DOGE) icon Dogecoin was born out of a tweet, a joke. In 2013, dog dog image was so popular that Palmer, a flat-shooting and marketing expert at Adobe Sydney and a cryptocurrencies researcher, tweeted semi-jokingly, "Invest in Dogecoin, this is the next big opportunity." After the tweet, there was a lot of support, and Palmer was very effective in buying the

domain name dogecoin a week later. Meanwhile, in another part of the globe, Markus, a programmer in Brandt, has been trying to create a cryptocurrencies. Markus came across the site and contacted Palmer for help. Before Palmer replied, he set out to transform the source code of Bitcoin, adding elements to Doge Mene. Palmer quickly replied to Markus, and the two clapped together. Eventually, dogecoin was born more than a week after the half-joking tweet. Dogecoin was born and developed so smoothly that it can even be described as hot. For Dogecoin itself, there are two main reasons for the boom: First, Dogecoin brings its own social attributes. On social networking sites such as Reddit, Dogecoin's content was very popular before it was born. When Dog

ecoin was born, it was greatly assisted by sites like Reddit. Dogecoin has far more attention on social networking sites than Bitcoin, Litecoin and other shanzhai coins. Second, Dogecoin's tip and charitable culture are recognized. Dogecoin advocates a tip culture, which has been used by many people for activities such as rewards in just one week, showing the level of recognition of its tip culture. Dogecoin is also more recognized in terms of philanthropy, and its charitable support is already extensive.

Binance focuses on how the parameters of the two popular cryptocurrencies, Dogecoin and Litecoin, are improved after combining mining. Both Litecoin and Dogecoin see a significant correlation with Bitcoin in terms of monthly hash changes. The data

show that the correlation coefficients for LTC/BTC pairs are 0.95, while the correlation coefficients for LTC/BTC and DOGE/BTC are 0.3 and 0.35, respectively. Binance points out.

Dogecoin is fully integrated and available on BitPanda. to trade.

Dynamic . . . Coinbase Wallet adds support for Dogecoin.

Popular implementations: Bitcoin, Ethereum, Litecoin, Dogecoin (most bitcoins)

Btctrade's announcement on the Dogecoin deal.

mBit Casino: Tried and tested favorites offer bonuses to Dogecoin players.

Dogecoin (DOGE) is committed to becoming a cryptocurrencies of real practical value like a currency.

Dogecoin is now the second most popular "tip electronic currency" on the U.S. Internet
Insight Chain Research Publishes Dogecoin Investment Analysis Report.

**Bitpanda has reached
1,000,000 users!**

bitpanda

GenBank	Information Platform & Open Database
Species+	Information Platform & Open Database
Catalogue of Life	Information Platform & Open Database
Oxford Research Archive	Information Platform & Open Database
Notes from Nature	Information Platform & Open Database
eBird	Information Platform & Open Database
GROMS	Information Platform & Open Database
OCTOPUS	Information Platform & Open Database
Atlas of Living Australia	Information Platform & Open Database
SlideAtlas	Information Platform & Open Database
Natural History Museum Databases	Information Platform & Open Database
Morpho Source	Information Platform & Open Database
Phenoscape.org	Information Platform & Open Database
Map of Life	Information Platform & Open Database
Antweb	Information Platform & Open Database
obofoundry.org	Information Platform & Open Database

Table 4.6: Potential conservation-specific smart contract financial applications

Use	Description	Source
Fund raising	<ul style="list-style-type: none"> • Direct, peer-to-peer fundraising • Crowdfunding and investment distribution where funds can be raised by multiple people and only distributed once goal has been met, otherwise funders are refunded • Create marketplace to connect investors to projects 	(Iot <i>et al.</i> , n.d.; Popov <i>et al.</i> , 2016; FriendFingers, n.d., Baynham-Herd, 2017; Booman <i>et al.</i> , 2018; gainforest.org, 2018)
Tracing funding flow	<ul style="list-style-type: none"> • Track impact • Enable token purchase and distribution as reward and use for purchase of services • Tokenise object or product to create digital representation to track income • Monetary repayment of loans • Trace what funds are spent on within a project 	(Nexo, n.d.; Farm Coin, n.d.; Eyholzer <i>et al.</i> , n.d.; Virtua, Change and Entertainment, n.d.; Modum.io AG, 2016; Baynham-Herd, 2017; Williams, 2017; Booman <i>et al.</i> , 2018; Conservation Investment Consultant, Interview, 2018)
Pay for performance schemes	<ul style="list-style-type: none"> • Automate penalties upon failure of goal achievement or missed deadlines • Distribute additional funds on goal achievement • Decrease loan interest rate on goal achievement 	(Conservation Investment Consultant, Interview, 2018)
Tradeable investments	<ul style="list-style-type: none"> • Enable investors to sell investments • Non-fungible tokens enable a digital representation of a specific investment which can be traded or sold • Potential to enable information to be shared only with those who own a specific token or a non-fungible token 	(ArkadiaLending, n.d.; CryptoKitties Team, 2017; Hertzog, Benartzi and Benartzi, 2017)
Controlled release of funds	<ul style="list-style-type: none"> • Release funds upon proof of step completion within a project 	(Conservation Investment Consultant, Interview, 2018)
Payment for ecosystem services	<ul style="list-style-type: none"> • Communities receive direct payments for restoring and maintaining ecosystem services • Esp. useful for those without access to traditional banks 	(Chapron, 2017; Oberhauser, personal comm., 2018)
Investor “feel good stories”	<ul style="list-style-type: none"> • Automatically share information of goal achievement and project updates with investors such as images, videos, publications, and data 	(Jepson, personal comm., 2018)

Building the Hyperconnected Future on Blockchains	2017	Gupta and ConsenSys LLC	Hexayurt.Capital and ConsenSys LLC
Architecture of the Hyperledger Blockchain Fabric	2016	Cachin	IBM
Applications of Blockchain Technology to Banking and Financial Sector in India	2017	DRBT	Institute for Development and Research in Banking Technology
Smart Contracts and Distributed Ledger - A Legal Perspective	2017	Not listed	ISDA and Linklaters
More Legal Aspects of Smart Contract Applications: Token Sales, Capital Markets, Supply Chain Management, Government and Smart Cities, Real Estate Registries, and Enabling Self-Sovereign Identity	2018	Hansen et al.	PerkinsCoie
Smarter Signatures: Experiments in Verifications	2016	Allen and Appelcline	Rebooting the Web of Trust Workshop
Enabling Trust on the Blockchain	2017	Shorish	Shorish Research
Distributed Ledgers, Smart Contracts, Business Standards and ISO 20022	2016	Not listed	SWIFT
Will That Smart Contract Really Do What You Expect It To Do?	2018	Everts and Muller	TNO
Scripting smart contracts for distributed ledger technology	2016	Seijas et al.	University of Kent and IOHK
Using Big Data to Detect Illegality in the Tropical Timber Sector: A Case Study of BVRio Due Diligence and Risk Assessment System	2016	Costa et al.	BVRIO
Agent-based Model of San Supply Governance Employing Blockchain Technology	2018	Pour et al.	Old Dominion University

Technological Limitations: Smart contracts must use a cryptocurrency to automatically move funds. It is possible to use fiat (euros, pounds, dollars, etc), however, an oracle must be involved to contact banks, which will not be an automatic process. It is also possible to transfer a cryptocurrency into Euros by connecting to a trading platform, such as Coinbase, which can be automated. This will add another step to the smart contract and requires a market for the cryptocurrency that is used. The use of a popular cryptocurrency (i.e. Bitcoin or Ether) would enable smoother transactions as a market already exists for these cryptocurrencies. A new cryptocurrency (i.e. Wildcoin) would be more difficult to transfer to a fiat on an existing trading platform. Alternatively, EWB can enable transfer from fiat to a created cryptocurrency on an EWB created investor platform, which can be an automated process.

Rewilding Europe Limitations: EWB would need to create or use an existing cryptocurrency. EWB may need to enable transfer from a newly created cryptocurrency to a fiat.

Appendix 1, Table 5: Areas identified for improvement and limitations of utilising smart contracts to meet these improvements

Areas for Improvement	Limitations
<ul style="list-style-type: none"> • Ability to track herd movement i.e. to ensure grazing within legal areas and for donor updates • Automated data connectivity and sharing i.e. population growth statistics and land impact data between EWB, herd managers and donors • Trace genetic lineages of individuals • Collect better land impact data • Herd reporting accuracy • Link data with herd contracts for automated notifications and to aid loan renewal decisions • Increase emotive involvement of potential investors through image and video sharing • Trace investor funds to specific herd • Prove to investors of efficient and effective use of funds • Engage in activities that could provide a monetary return on investment i.e. beef sales, trophy hunting, ecotourism, grazing for fire protection services • Utilize technology i.e. location monitoring devices, GPS/GIS and satellite imagery for data gathering and analysis, IoT enabled train cameras 	<ul style="list-style-type: none"> • Limited access to GPS, remote sensing, data capture technology • Tracking devices on horses must be physically scanned by handlers and do not enable remote scanning • Purchase of additional or improved tracking devices requires funding • Animal location data is not openly shared • Collecting genetic information costs are high • Estimating parent-offspring relationships relies on observations, which are difficult on large sites • Government restrictions limit interference i.e. bison interactions are limited to counting • Loan renewal decisions cannot be automated

4. Smart Contract Affordance to Conservation

4.1 Smart Contract Possibilities and Limitations

Detailing possibilities and limitations requires understanding technical aspects of smart contracts. Smart contracts are stored and executed on a blockchain (Idelberger *et al.*, 2016). Blockchain, also known as Decentralised Ledger Technology, was created by Satoshi Nakamoto with the invention of the cryptocurrency Bitcoin, a digital currency that is not state-issued and requires no centralised bank (Nakamoto, n.d.). Blockchains are most generally used in the transfer of cryptocurrencies for online and real-world purchases, to maintain proof that something exists, provide digital signatures, ensure voting rules are followed and to track ownership change with the use of a digital representation of a file or object (Underwood, 2016; Xu *et al.*, 2016). Blockchains are a chronological record of every transaction that occurs in a network of peers. A transaction can be the transfer of a cryptocurrency or information, such as proof that a conservation goal has been reached. Each peer, also known as a node, stores a copy of the blockchain. Each transaction is shared with the network, and every copy of a blockchain is updated to include the transaction. Because of this, blockchains are decentralised and distributed, meaning no one individual has control of a blockchain. This cuts out third parties and enables peers to transact directly with one another, such as a donor providing funds directly to an on-the-ground conservation project without the need for a bank or large NGO to distribute funds. Decentralisation also increases security because altering a transaction already on a blockchain would require changing every copy in the network. Nodes can validate a blockchain to be true based on their own copy, enabling peers to identify falsified transactions. Blockchains are immune to hacking, security breaches and single-point failures (when information is lost when a server fails). Blockchains are therefore durable, persistent and reliable. These aspects eliminate the need for trust between peers as all transactions are fully transparent (Underwood, 2016; Xu *et al.*, 2016; Ahram *et al.*, 2017). Box 1 outlines key blockchain aspects, depicts an example of the type of information found in a block on a blockchain and shows the connections between each node in a blockchain network.