

# The Cryptocurrency Identity Crisis

An Industry Scorecard for Digital  
ID Verification for KYC and AML



**68%** of crypto  
exchanges & wallets  
fail to conduct proper  
identity checks meaning  
that criminals & Politically  
Exposed Persons can trade freely



**P.A.ID Strategies**

Payments - Authentication - Identity

## Opening Statement

There has been increased scrutiny of crypto currencies following the breach of several prominent exchanges in recent years, reported fraud around new ICOs and the volatility of the market evident in recent months. Advocates for wider adoption and integration with or replacement of traditional fiat currencies believe that regulation – either self-regulation from within the industry or by governments – is a necessity to gain the mass market approval and adoption needed to sustain crypto currencies for the long term.

With some countries and states having banned or limited crypto currencies a growing number of groups (mainly in Europe) have started dialogue and efforts to develop appropriate safeguards and operational parameters to attract more cautious users, increase acceptance and drive adoption beyond early adopters and speculative investors. Concurrently, government organisations are looking to do the same with the European Commission (EC) ratifying the fifth anti-money laundering directive (AMLD5) this year, to come into effect at the end of 2019. This stipulates that custodian exchanges and wallets that hold and control value of digital currencies and the private keys for their customers must comply with know your customer (KYC) and anti-money laundering (AML) regulations.

## Executive Summary

The discussion around regulation affecting crypto currencies continues to evolve. Whilst there are questions about how far and wide-reaching regulation may be there is a consensus that it will happen; whether industry led or driven by government regulation. This is certainly the situation in Europe and North America, the two regions which are the focus of this assessment.

Perhaps this uncertainty is part of the reason why there is such variation in how companies are conducting their on-boarding procedures. There were some very good and some poor examples across the different aspects being considered. Another point is that many service providers are relatively new companies and may not have focussed on this aspect of their platforms. However, they should be aware, as this assessment attempts to show, how the on-boarding process is key in determining the overall impression of a service. A poorly thought out, implemented or conceived process can deliver an impression of poor security, poor customer service or a generally untrustworthy site (which is a key issue affecting the crypt currency sector).

It was notable that the majority of crypto exchanges and wallets do not have proper KYC procedures in place and are not ready for next year's AMLD5 introduction. Some of this may be explained by the fact that some within the crypto currency sector are very keen advocates of privacy and anonymity. They do not believe that people should have to comply with KYC and AML regulations and believe that as long as the transaction can be trusted to be completed then this should be enough. However, others believe that to ensure the longevity and success of crypto currencies in the wider market then regulation is necessary – and the government regulators certainly align with this view.

The best examples of (digital) identity verification were from Coinbase, Gemini and Poloniex. These were the most seamless and offered the quickest turnaround and confirmation for users keen to start trading.

Another point worth highlighting is that of the top ten rated platforms, only two (QuadrigaCX and CEX.IO) did not have any formal identity verification process in place. Two more (Mercatox and CoinCorner) had it as an optional process (at least for low-value trading). This shows how difficult it is to establish a trusted and well perceived platform without a good understanding of security and KYC and AML compliance. Those that scored highly for having a very quick and simple activation and registration process were generally scored lower for security and identity as well as for user perception.

There were other security measures in place and offered to users to create a more secure and trusted environment although some platform simply only required an email address to get an account registered. 2FA was offered by many of those wanting to provide more security for their users and was offered by seven of the top ten ranked platforms.

## Full Results

Wallet/Exchange	Wallet/ Exchange	Requires Unverified Personal Information	Requires official ID docs to begin trading	ID Verification Score
Coinbase	E	✓	✓	9
Gemini	E	✓	✓	9
Poloniex	E		✓	9
itBit	E	✓	✓	9
Luno	W	✓	✓	8
Bonpay	W	✓	✓	8
Mercatox	W	✓		7
Kraken	E	✓	✓	7
Bitstamp	E	✓	✓	7
CoinCorner	W	✓		7
QuadrigaCX	E	✓		6
Cex.IO	E	✓		6
Blockchain Wallet	W			6
Wirex	W			6
Lykke Wallet	W	✓		6
Coinexchange	E			5
Exmo	E			5
Coinjar	W			5
Liqui	E			4
Local Bitcoins	E			4
YoBit.net	E			4
BitPanda	W			4
Bitwala	W			3
SpectroCoin	W			2
Indacoin	E	✓		2

## Crypto Currencies Want to Digitise and Democratise the Future of Money

In the past 5 years there has been rapid acceleration and increasing investment into crypto currencies. Valuations soared in 2016-17 as people looked at them as more of an investment rather than a new means of conducting financial transactions. Such was this rapid increase in valuation that some may not realise that this was the original reason behind the development of crypto currencies. They provide a decentralised offering, not tied to any individual or banking system and free of the constraints of traditional fiat currencies. These constraints, in the eyes of some, included regulation.

Crypto currencies differ from traditional, government-issued fiat currency in that they are digital assets with no physical representation, utilising distributed ledger technology (blockchain is the one most commonly referenced) to provide a record or database of financial transactions. Since a blockchain is distributed and decentralised in nature it cannot be altered or manipulated after the fact so the record is permanent. This all results in it being controlled by the market rather than governments.

Crypto currencies are also known as digital, virtual or alternative currencies, which in turn are known as coins. With the level of interest there has been a proliferation of these currencies released as developers look to attract user and drive adoption. When these coins are released or launched it is known as an independent coin offering (ICO). The release is always via a crypto (or digital asset) exchange. Exchanges work in much the same way as a foreign exchange or stock market exchange does. Not all coins are released to all exchanges so there is some competition in the market for the most attractive ICOs amongst exchanges as well as consumers/buyers.

In addition to ICOs, exchanges support the functions of trading, i.e. buying and selling, coins/crypto currencies and digital assets. These are generally bought and sold at a market determined value, which can go up and down depending on demand (which may be influenced by external factors) – as with any asset or currency.

Crypto currencies can be held by the exchange on behalf of the user in an account (also known as a wallet). This operates in a manner similar to a bank account where the value is allocated to the user's name/account but they do not actually hold it themselves.

Alternatively the user can hold and control the currency in their own crypto wallet (an account with a third party provider). There are several different types of wallet but for the purpose of this assessment the significant divide is between custodial and non-custodial wallets. A custodial wallet is similar in principle to an exchange, where the wallet provider maintains control (via a private key) of the wallet and the assets in it. A non-custodial works more on the premise of physical cash or a safety deposit box where the asset is under the user's actual control; the wallet provider has no access or control over the currency and the user holds the private key.

## Impact and Issues Surround Crypto Currencies

Interest in crypto currencies remains strong despite the past 12 months seeing extreme market volatility. Leading coins saw their value rocket in Q2 and Q3 of 2017 before in late Q4 the market fell back heavily. Some users saw their value increase massively whilst others are waiting to see if the market recovers after two quarters of comparative stability.

There are other issues affecting the crypto currency sector:

- Several ICOs have been launched without having the necessary liquidity behind them to ensure they can fund the transactions and if they fail or perform poorly investors can lose large amounts of money
- Some ICOs have been fraudulent from the outset with people using them to scam investors out of money
- Some exchanges were hacked and large amounts of coins were stolen with users and exchanges losing their assets
- Some exchanges have been poorly run or have been susceptible to insider fraud and mis-management
- The relative anonymity offered by crypto currencies means that people are able to conduct financial transactions with little fear of being detected, which has led to their use in illegal activities (as well as for legal transactions)
- If a user of a non-custodial wallet loses their private key (which could be a printed QR code, a 12-word mnemonic, an alpha-numeric code or similar) then they lose access to their assets which cannot be recovered

All of these points have combined to lead governments and regulators to consider introducing a framework to limit some of the volatility, reduce fraud and losses stemming from poor practice and ensure that there is a degree of accountability and compliance with action taken to minimise criminal activity, including tax evasion, money laundering, circumventing of sanctions and funding of terrorism and criminal activities. In recognition of this, some companies active in the crypto currency sector have started to form their own industry organisations to either advise governments and regulators or in an attempt to implement self-regulation and minimise government involvement.

## Are Crypto Currencies Ready for Mass Market Adoption?

Despite the increasing interest, investment and adoption, crypto currencies remain niche and far from mass market adoption. Some companies have recognised that more needs to be done and are developing services more akin to those offered in traditional financial sectors as well as integrating with more established payment services. Some wallets (and exchanges) are bundling their crypto capabilities with more physical and virtual cards to make spending online and in person easier. Despite this the vast majority of people will have never “touched” crypto currencies, in part due to their own lack of awareness but also the lack of acceptance from merchants. However, the increase in negative press and poor reviews has led to a level of uncertainty and even mis-trust amongst many.

Many industry insiders and observers now believe that regulation is a necessity to overcome these fears and ensure a level of trust and confidence amongst users to aid wider adoption. This is where the difference between custodial and non-custodial wallets comes into play. As mentioned, if a user loses their private key they lose access to their digital assets. However, with a custodial wallet (as with an exchange) the wallet provider maintains a private key (as well as or instead of the user) which allows for them to either provide a level of recoverability once the user has proven their identity.

The European Commission (EC) drafted its 5th anti-money laundering directive (AMLD5) in 2017 which will be ratified in mid-2018 and come into effect at the end of 2019. This adds crypto exchanges and custodial wallets to the list of service providers that must implement know your customer (KYC) measures to comply with AML regulations. Concurrently, governments in Japan and the USA are requiring registration of exchanges plus possible further regulation. Other governments will follow suit although it is in very early stages for many of them.

## Methodology

The focus of this paper is on those exchanges and wallets operating from bases in Europe and North America. The reasoning for this is that:

- The most developed markets in Asia, such as Japan, have already started pushing ahead with registration of exchanges and some regulation.
- Other Asian markets which had seen rapidly increasing interest, such as China, have effectively banned or limited use of crypto currencies.
- A number of wallets and exchanges have relocated or expanded from Asia to Europe and North America.
- Regulatory involvement in Europe and North America is at an early stage, both from government organisations and industry-led organisations.

In addition to the geographical focus, AMLD5 from the EC specifies custodial crypto wallets and exchanges so this was part of the selection criteria, narrowing the field and ensuring that only relevant providers were included within the assessment.

The exchanges included were a random selection of those recognised as leading exchanges. This was backed up by cross referencing them with a list of the most valuable exchanges, i.e. those that processed the greatest value in a 24-hour period.

The custodial wallets selected were a cross section of those that have been established for the longest time (and as such would be deemed to be the most commonly used and trustworthy) and those that are newer. This was done to compare and identify if the newer wallets have adopted new approaches more aligned with the proposed KYC and AML regulations' requirements.

Given the nature of the regulations and the concerns that have affected the market to date, the assessment's primary focus is on the on-boarding procedure, including the requirement of each provider for identity verification and the additional security mechanisms in place. However, this also encompasses the opening and activation procedure and it affects and relates to the user experience and perceptions of the service provider so these were also included as two categories within the assessment.

High scores were achieved for a quick, simple yet involving sign-up process; offering levels of security that work for both the end-user and service provider without negating the process, providing clear and attractive flow and user experience that did not create "drop-out" points. [A drop-out point is one where the user signing up decides that the barrier encountered in the process is too big/complicated to deal with and so drops-out of the process rather than continue.]

**BitPanda****Total: 11/20**

Established in 2014, BitPanda is an Austrian company focused on the buying and selling of Bitcoins. It claims to have over 850k users and aims to provide a wallet platform that is fast, secure and easy.

**Account Application and Activation**

The initial application consisted of 6 steps and took 2m34s to complete.

**Score: 4/5**

**Identity Verification and Security**

Email verification and password creation was the initial step along with a challenge (in the form of a simple equation) to prevent automated attacks. No ID or verified information was required. **Score: 4/10**

**User Experience and Perception**

The overall process was quick and easy; almost too quick and easy as it did not feel as secure as some other implementations that had more security options implemented.

**Score: 3/5**

**Comments**

BitPanda has clearly designed its platform to be quick and easy to sign up to and trade between crypto currencies. However, the security mechanisms in place feel as though they are as much or more for the platform's security rather than reassuring the user that this was there to protect them. There were no measures relating to AMLD5's requirements.

**Bitwala****Total: 10/20**

Not yet out of beta, the German-based Bitwala wallet was founded in 2015 to go beyond typical crypto wallets. It aims to combine crypto and traditional banking experiences with a debit card as part of the service offering.

**Account Application and Activation**

At this stage of its development, Bitwala only requires an initial registration. The process has 3 steps and took 1m32s.

**Score: 4/5**

**Identity Verification and Security**

Since it is only a registration process the only mechanism is a verified email address. Given its aims and target audience it is expected that Bitwala will introduce further security likely complying with KYC and AML requirements. It is expected that this score will rise once fully commercial.

**Score: 3/10**

**User Experience and Perception**

Everything is clearly laid out and explained, with a simple, well laid out website offering a clean experience. However, it should be noted that it is not possible to truly judge before a full live service offering is launched.

**Score: 3/5**

**Comments**

Due to it being pre-commercial it is not an equal comparison to the other platforms here. However, as a new entrant to the market it is interesting to compare how it on-boards customers to the others that launched prior to discussion of potential regulation affecting the market.

**Blockchain Wallet****Total: 13/20**

A UK-based wallet platform, founded in 2011, claiming to be the #1 digital wallet for crypto currencies, with over 100 million transactions processed and over 24 million wallets created.

**Account Application and Activation**

The initial sign-up consisted of 3 steps which took 2m33s to complete.

**Score: 3/5**

**Identity Verification and Security**

Email verification with an alpha-numeric code and password are the initial steps. Additional options are provided to users, including a 12-word mnemonic for back-up and recovery, password hint and mobile 2FA improving the overall score.

**Score: 6/10**

**User Experience and Perception**

Aided by the additional security and recovery options offered, Blockchain Wallet's user experience was simple, well laid out and reassuring without creating barriers to sign-up.

**Score: 4/5**

**Comments**

Blockchain Wallet offers a simple and flexible platform encompassing many different facets and geographies. Whilst it provides options to boost security and the level of user comfort it didn't exhibit any compliance with upcoming regulations.

**Bonpay****Total: 14/20**

A newer entrant into the crypto wallet space, Bonpay was founded in 2016 and is based in the UK. It is aiming to go beyond the standard digital capabilities by adding physical debit and virtual cards for wider usage in online and offline transactions.

**Account Application and Activation**

Registration and opening the wallet consisted of 4 steps, offering both desktop/email and mobile options, taking 2m06s to complete.

**Score: 4/5**

**Identity Verification and Security**

Email verification with activation PIN followed up by entry of personal information and a SMS code to create the account. Lifting of operational and financial restrictions required additional steps in the form of scanning and uploading passport and a utility bill to confirm identity (and thereby complying with pending regulations).

**Score: 8/10**

**User Experience and Perception**

The layout and process were clear and simple to follow whilst encompassing entry of additional information and offering both desktop and mobile options. However, Bonpay's user experience was downgraded due to a break in communication once the additional documentation was uploaded. It was only after searching online that it became clear a 7-10-day wait was necessary for verification to be completed. This also contributed to the lower score as it could be a point at which users decide to switch to a platform offering quicker on-boarding and verification.

**Score: 2/5**

**Comments**

Bonpay's implementation of identity verification meets future KYC and AML requirements and gives it further knowledge of its customers for the extra services it offers (taking digital and crypto into the physical world). The principles are clearly outlined although the implementation is a little clunky, i.e. the documents have to be separately scanned and uploaded and is 7-10 days to confirm will present a potential barrier to some users going live on the service.

**CoinCorner****Total: 14/20**

Relatively small, with over 100,000 users reported towards the end of 2017, having double its user-base to November 2017 it currently lists over 150,000 users. Founded in 2014, CoinCorner is based in the Isle of Man, UK. It is positioning itself as being at the forefront for when regulation is introduced to crypto currencies.

**Account Application and Activation**

Sign-up was reasonably involved, comprising the submission of additional data across 5 steps. It took 3m24s to complete with an additional 1m08s to upload the documentation scanned in advance.

**Score: 3/5****Identity Verification and Security**

Account creation started with name, email, password and unverified personal information. Additional personal information and an identity document number (entered manually) before email and mobile verification. This is reasonably detailed level of information although there is no evidence of any of the personal data and information being verified. KYC procedures are optional until £900 of deposits is reached. This was a basic scan and upload procedure.

**Score: 7/10****User Experience and Perception**

All stages were clear and straightforward to follow with clear communication. The only negative comment is that the confirmation of procedure did not include any suggestion of typical length of time for identity verification to be completed.

**Score: 4/5****Comments**

The option to undertake the KYC procedure was taken although not the ability to speed this up with a link to a social network profile. One area for consideration is that the impression of security would have been boosted with another mechanism to work on behalf of the user (such as a PIN or 2FA). Also, if the KYC process was more digital/automated then it would be easier to provide guidance on how long this would take to complete (or to give an almost immediate response).

**Coinjar****Total: 10/20**

An Australian company which set up UK operations in 2014, Coinjar sets itself as the simplest crypto wallet available.

**Account Application and Activation**

Initial set-up process was a little more drawn out than some of the others, involving 8 steps which took 4m23s to complete.

**Score: 2/5**

**Identity Verification and Security**

Email verification for username after password creation, supplemented by time-limited SMS code to complete wallet creation. Noted that SMS verification is used for every log-in.

**Score: 5/10**

**User Experience and Perception**

Several steps but all very clear and simple to complete.

**Score: 3/5**

**Comments**

The UK-based service is clear and simple to follow although it does not offer any identity requirement to meet future regulations. Interestingly, its Australian counterpart does do this, promoting that it utilises Australia Post's Digital iD solution for verification of all customers, conforming to Safe Harbour AML rules in the process. It states that Digital iD can verify a user's identity in minutes. Had such capabilities been offered within the UK-based service then it would have scored much higher.

**Luno****Total: 16/20**

Luno was founded in 2013 and is based in London. It is part of the wider Luno Money organisation which also includes a crypto exchange. It positions itself as a long-serving and trusted operator in the crypto currency world, highlighting that it has processed more than a billion dollars in transactions and has customers in more than 40 countries.

**Account Application and Activation**

It is just 3 simple steps to register for Luno: enter email, create password then verify email to open the basic account (which took 1m05s). Further steps are laid out to increase the functionality of the wallet to one of the three higher tiers.

**Score: 4/5****Identity Verification and Security**

Level 1 required the entry of a mobile number, level 2 the manual entry of passport details and level 3 confirmation of address. At 12-24 hours, identity is verified quicker than in most instances within the assessment.

**Score: 8/10****User Experience and Perception**

Luno provides a clean and uncluttered user experience, providing information and explanation when needed in a succinct manner.

**Score: 4/5****Comments**

Security was straight forward and clearly explained in advance, providing clarity and reassurance for users able to scale and control the level of information they wish to share and the level of functionality that they wish to utilise (which is in itself an additional security feature as it limits risk).

**Lykke Wallet****Total: 11/20**

Lykke Wallet is positioned to offer easy access to crypto currencies and the wallet is provided alongside an exchange. It was founded in 2013 in Switzerland.

**Account Application and Activation**

5 steps to set up the wallet took 1m 44s to complete. The switch to the Trading Wallet smartphone app took an additional 3m47s to complete activation once the download and installation was complete.

**Score: 3/5**

**Identity Verification and Security**

Email and a verification code was the initial mechanism before creating the password and entering your name. The wallet app introduced several additional steps and measures during initial activation. These included a time-limited (1 minute) OTP via SMS for number verification, personal data and information entered manually, creating a PIN and generation of a unique private key via the touchscreen and finally a 12-word mnemonic used for back-up and restore.

**Score: 6/10**

**User Experience and Perception**

Lykke made the initial account registration experience online quick and easy although it felt disjointed when then having to switch to a mobile app for the wallet. Wallet activation was straight forward and reasonably concise with it done in a manner that was very thorough (particularly around creating and recording the mnemonic).

**Score: 2/5**

**Comments**

Starting online before having to switch to mobile was a little confusing and was the area where communication and education was weakest. It was not clear why this step was necessary and initially it was believed that the wallet had been opened online. A KYC procedure was mentioned as possible during usage of the mobile app but this was not experienced at this point. Having gone through the rest of the registration process it would have been useful to have the option to do this at the same time.

**Mercatox****Total: 14/20**

Based in London, Mercatox was launched in 2016 to serve as a fast, reliable and secure crypto wallet. The wallet is part of a platform offering broader services, such as trading, payments and smart contracts, all based upon Blockchain technology.

**Account Application and Activation**

The on-boarding experience is quick and straightforward, advising of the ability to add extra security if wanted. There were 4 steps which took 1m33s to complete. The optional identity verification took an additional 3m00s.

**Score: 4/5****Identity Verification and Security**

Email verification followed by password creation. At initial log-in a pop-up message warns that basic security is low and offering two options for 2FA (via email or Google Authenticator). Identity documents and personal information were optional to add unless wanting to withdraw above a specified daily value. This optional stage started with personal information, then the scan and upload passport and utility bill.

**Score: 7/10****User Experience and Perception**

Each stage was quick and easy to complete. Communication was clear and prompt in the initial process. However, at the end of the optional identity verification there was no communication beyond being advised to wait for a response from an administrator.

**Score: 3/5****Comments**

The communication and options relating to security, 2FA and uploading ID documents boost Mercatox's score, aided by fast and prompt communication and responsiveness in the initial process. This fell short at the end of the KYC procedure as a lack of information was provided as to how long and which means KYC would be confirmed. A verification email is sent every time the user logs in to their account strengthening the user's perception of security.

**SpectroCoin****Total: 10/20**

Spectrocoin provides a mobile and online crypto wallet and an exchange offering instant currency transactions. Based in Lithuania it was founded in 2013. It is tied to Bankera, which is building out banking services based upon Blockchain technology. These services include debit cards, payment processing, IBANs and foreign exchange.

**Account Application and Activation**

Simple and clear actions to create the wallet. The process involved 4 steps taking 2m17s.

**Score: 4/5**

**Identity Verification and Security**

Email verification for initial set-up, supplemented by a password. No additional security measures were provided, optional or otherwise.

**Score: 4/10**

**User Experience and Perception**

The process was quick and easy to complete although the lack of more advanced security and options to strengthen the consumer's level of comfort and security awareness limited its score.

**Score: 2/5**

**Comments**

Given the group's move to add banking services under the Bankera brand it is notable that Spectrocoin (which provides debit cards for use with its crypto wallet) has not added identity verification to its offering to ensure compliance with KYC and AML regulations.

**Wirex****Total: 13/20**

Wirex was founded in 2014 and is based in the UK. It offers a crypto wallet, accessible via mobile and desktop, with an accompanying debit card. It is positioned to offer a combination of cryptocurrency features with more traditional current account, including currency conversion. Wirex claims to have processed over \$1.5 billion in transactions with more than 1.5 million users.

**Account Application and Activation**

The initial process is a little more involved than some of the other wallets due to the promotion of the debit card. This consisted of 6 steps which were completed in 3m12s.

**Score: 3/5****Identity Verification and Security**

Wirex talks up its security credentials with reference to multi-sig technology, SSL encryption and 2FA. However, the primary security mechanism for users is a password, following on from email verification at set-up. It does prompt the user to verify their profile but it is clear that this is optional if using exclusively as a bitcoin wallet.

**Score: 6/10****User Experience and Perception**

The mobile app aids the user experience although it should be noted that the score for this assessment is focused on the on-boarding process. The procedure is straightforward although some information did not flow as expected, e.g. the pop-up promoting the debit card was not visible when "learn more" was clicked; the process moved on to the email verification screen instead.

**Score: 4/5****Comments**

Standard wallet access is straightforward and well presented with feature options to increase appeal to users. The ability to upload documents via a smartphone is a capability that marks it above many of the other wallets offered as does the option to have virtual and physical debit cards (although this appears tied to the current account and accompanying card). The overall score could be boosted if more security was in place and some of the options were clearer, e.g. how to add 2FA and what it offers.

**Bitstamp****Total: 10/20**

Based in the UK, Bitstamp claims to be one of Europe's oldest crypto exchanges. It was ranked 5th in the list of exchanges in order of highest value of transactions processed in a 24 hour period.

**Account Application and Activation**

Bitstamp's sign-up process was one of the longest to complete, consisting of 10 steps that took 6m28s.

**Score: 1/5****Identity Verification and Security**

Email verification for customer ID and password with a prompt to change it upon first log-in. Then led through addition of personal details and verification of identity documents. Standard verification takes two weeks to complete after scan and upload.

**Score: 7/10****User Experience and Perception**

Noted that the repeated log-in created quite a robust experience and each step was clear and easy to follow, including the identity verification. The subsequent request to then complete an additional KYC questionnaire seemed unnecessary and areas such as occupation, annual income and net worth didn't directly relate to Bitstamp being able "to process your future fiat transactions faster".

**Score: 2/5****Comments**

Bitstamp handled the identity verification section of the process well although two weeks to complete this is a barrier for some users who will want to sign up and actively use their account much quicker than this allows for. The attempt to get additional background information seemed clunky and unnecessary and more for internal marketing purposes than regulatory compliance.

**CEX.IO****Total: 14/20**

Based in the UK, CEX.IO was placed 20th on the list of exchanges by 24-hour transactional valuation. It positions itself as a trusted crypto currency exchange, highlighting its reliability and that no user's funds have been lost. It a founding member of CryptoUK, the first trade association for the UK crypto currency sector. As such it is an influencer, speaking with the UK government and regulators about best practice and implementing an operational framework.

**Account Application and Activation**

CEX.IO offers a number of log-in options, including popular social media platforms. It only allows one account per user with the suggestion for more serious users to its Trade interface and tools. There were 4 steps which took 1m31s to complete.

**Score: 4/5****Identity Verification and Security**

Initial set up is via email confirmation and a 32-digit confirmation code. No formal KYC is in place although full registration requires payment card details to be manually entered which is then verified to allow external transactions. Additional suggestion to enable 2FA via smartphone app or SMS adds to its score although it doesn't undertake any regulatory-compliant verification of government issued identity credentials.

**Score: 6/10****User Experience and Perception**

The mention of compliance with PCI DSS Standards, data encryption, legal compliance and due diligence combine with its membership of CryptoUK to reassure users of its validity and security. The process itself was easy to follow and well laid out.

**Score: 4/5****Comments**

It claims a customer base of over 1 million users and it has developed its on-boarding process to make it easy for users to create an account with a good degree of comfort and security. However, given its position and claims to enhance security it is a surprise that it does not have a formal identity verification process in place.

**Coinbase****Total: 16/20**

Coinbase is one of the largest exchanges by 24-hour transactional value. It claims to be one of the easiest and most trusted crypto currency exchanges. This is reflected in the stated more than \$150 billion of transaction processed and more than 20 customers. It is based in the USA and offers secure offline storage and its own insurance policy.

**Account Application and Activation**

Opening the account involved 5 steps which took 2m50s to complete. Additional actions were required to allow the buying and selling of crypto currency.

**Score: 3/5****Identity Verification and Security**

Password creation was followed by email verification. Coinbase then had an extra step involving mobile registration and a seven-digit OTP. Prompts then lead to payment verification (involving manual entry of bank account or card details) and identity verification. Verification of the payment details includes address and the identity verification process was very quick (1-2 minutes) and seamless.

**Score: 9/10****User Experience and Perception**

The whole process was quick and easy with Coinbase's identity verification being particularly quick and easy. It all combined to create the impression of a trustworthy and secure platform.

**Score: 4/5****Comments**

Additional 2FA with SMS passcodes add to the feeling of security. Several forms of identity could be accepted for verification which gives the user choice. Similarly, the options to capture and upload the identity document via webcam, smartphone camera or file upload are well designed and make it easy for the user, not limiting them or creating barriers to the onboarding procedure.

**Coinexchange****Total: 13/20**

Coinexchange is a US-based company providing a crypto currency exchange ranked 35th in terms of 24 hour transactional value processed. It should be noted that on more than one occasion the website was not accessible, stating that there was an issue with its hosting provider.

**Account Application and Activation**

Before the website can be accessed it is necessary to go through a "Captcha" challenge to prove you are not a robot, which is a little odd as not a common practice. Despite this the on-boarding procedure only required 1m35s to complete the 3 steps.

**Score: 4/5****Identity Verification and Security**

Username, password and a verified email were the only security measure involved in set-up. There was no identity verification although it did provide the option to use Google Authenticator for 2FA when logging in.

**Score: 5/10****User Experience and Perception**

Each step was clear, quick and simple to implement. Logging in and accessing the page was not 100% reliable which did cause a degree of concern.

**Score: 4/5****Comments**

Coinexchange was judged well in relation to the account activation and user experience provided although this was limited to a degree by the fact that it did not feel as if it provided robust levels of security. If it was to adopt a form of identity verification and could provide more options to the user when accessing their account and authorising transactions then it would score more highly.

**EXMO****Total: 11/20**

EXMO states that it has nearly 1.5 million users in more than 200 countries. Based in the UK it positions itself as an international crypto currency exchange. It was ranked 17th on the list of crypto exchanges by 24-hour transactional value.

**Account Application and Activation**

EXMO has the quickest and easiest activation procedure of any exchange in this assessment. It only involved 1 step and took 1m15s to complete.

**Score: 4/5**

**Identity Verification and Security**

There was little evident security with email and password being the only facets. There was the ability to verify the account with identity and address details but this was not necessary to buy, trade and exchange crypto currency. It was only necessary if looking to withdraw with a bank card or for non-crypto services.

**Score: 5/10**

**User Experience and Perception**

Whilst everything is clearly laid out it is a little disconcerting that no identity verification is required for many standard capabilities. As long as the user wishes to remain in the crypto realm then it is not needed at all. Actions like holding up a newspaper when taking a picture of the user and their identity document felt flimsy.

**Score: 2/5**

**Comments**

EXMO has made it very easy to set up an account and start buying and selling crypto currency. If anything, it was too easy to create an account with no security challenges or mechanisms in place (other than a password). This is not really suitable for high value transactions and the overall impression is not one of security. Adding more user options or controls would see it score more highly.

**Gemini****Total: 16/20**

Gemini is a US-based service provider ranked 10th in a list of crypto exchanges by 24h hour transaction value processed. It promotes that it is a licensed and registered exchange, tying in with a high-end corporate feel and messaging around offline storage, security and compliance.

**Account Application and Activation**

Gemini's on-boarding procedure is longer than average, which is to be expected given its positioning. There were 7 steps in total which took 5m28s to complete in total.

**Score: 3/5****Identity Verification and Security**

Creation of username and password was followed by a code sent for email verification. Gemini's welcome screen prompts enabling of mobile 2FA with the Authy app or SMS, registering of a bank account and verification of identity. The user can take a picture or scan and upload their passport along with proof of address.

**Score: 9/10****User Experience and Perception**

Despite having several additional steps for identity and security the overall process is quick and straightforward. It all combines to create a very polished, comfortable and trustworthy experience. The only negative was a slight break in communication at the end of process when no guidance on the completion of identity verification was provided.

**Score: 3/5****Comments**

Gemini has effectively created a user experience that aligns with its positioning and messaging. It offers options that enhance this and delivers them seamlessly. The only slight delay (in the identity verification) was attributed to high volumes of new applicants although this was still complete within 24 hours. The addition of bank account details was not forced and is left to the user to add when ready.

**Indacoin****Total: 4/20**

Indacoin is a UK-based crypto exchange which makes it very easy for users to sign up and start buying crypto currency very quickly via Mastercard or Visa credit and debit cards. A big part of its messaging is that you can use the exchange without registering and supports a high number of different coins. It is widely available with mobile apps and online access.

**Account Application and Activation**

Due to its set-up, there is no registration process as such. It will even create a new crypto wallet for you if you do not have one already set up.

**Score: 1/5****Identity Verification and Security**

If a user already has a crypto wallet address then they only need to provide this and an email along with card details. It is not clearly labelled but a message appears if hovering over one icon that first-time buyers need to provide a mobile number for verification. Contradicting Indacoin's statement that you can purchase your crypto currency with just a debit or credit card is that the FAQ's mention "verification". It appears that this relates to a 4-digit code received via a phone call. There may or may not be a need for video verification and upload a scan or take a picture of a government issued identity credential.

**Score: 2/10****User Experience and Perception**

Indacoin certainly makes it easy to buy crypto currency although this works against it as it creates a user experience that is not reassuring or trustworthy. There are no security mechanisms apparent and it is the only exchange or wallet in this assessment which does not require even basic verification of an email address. The late mention of entering a mobile number and receiving a code via phone rather than more standard SMS or within the app does not build confidence or provide reassurance. The mixed messaging around quick and simple purchase and then varying identity and payment card verification does not increase a user's confidence in the platform.

**Score: 1/5****Comments**

Indacoin's ease of access and transaction appeals to certain users, which is represented by its statement to have over 500k users since 2015. However, those users wanting to use a platform regularly and for higher value transactions are likely to use alternatives that are more aligned with potential regulation. This conclusion is backed up by the fact that Indacoin ranked 66th by transactional value processed in a 24-hour period.

**itBit****Total: 14/20**

itBit is a crypto exchange based in the USA. It is positioned as a premium, professional platform serving financial institutions and individual traders making high-volume transactions. As might be expected, it offers high-end and professional services and customer support. itBit was ranked 18th in a list of exchanges by 24-hour transactional value processed.

**Account Application and Activation**

This process was quite detailed compared to many platforms, although only 4 steps it took 4m24s to complete.

**Score: 2/5**

**Identity Verification and Security**

Username, email, password and a robot challenge consisted of the first phase. Initial log-in was followed by more detailed requirements and a stipulated activation of 2FA, linked to an alpha-numeric code (which has to be backed up in case the phone is replaced). Various personal details are entered and then copies of a government issued identity credential and proof of address were uploaded.

**Score: 9/10**

**User Experience and Perception**

All worked very well and although detailed it was a quick process and easy to follow. Options were provided where needed to allow for a variety of means to complete the process. Although there was a slight impression of overkill it is recognised that itBit is aiming at premium, high-value traders. There was one problem encountered and that was even after several attempts it was still not possible to upload the identity document and utility bill so it was not possible to complete the KYC process.

**Score: 3/5**

**Comments**

Overall a very thorough implementation, well designed and accommodating for user preferences. Saying this, a degree of flexibility in allowing the full process to be completed in phases might be more accommodating for some users. It was a shame that there was a technical problem that prevented the process from being completed in full. If this had not occurred, it is likely that itBit could have scored equal first.

**Kraken****Total: 13/20**

Kraken claims on its website to be (or that it has) “#1 security” with encrypted cold storage. It is well established having been founded in 2011 and makes a big play of its trust and security, highlighting that it is a partner of the world’s first cryptocurrency bank. Kraken is based in the US and has been reported to be the world’s largest Bitcoin exchange in terms of Euro volume and liquidity. On the ranking of exchanges by 24-hour transaction value, Kraken ranked 9th.

**Account Application and Activation**

The registration and on-boarding procedure had 3 steps although it took a comparatively long 3m54s to complete.

**Score: 3/5**

**Identity Verification and Security**

Registration required email, username and password with a verification code received via email. Upon opening notification is provided that it is necessary to get verified to deposit, trade and withdraw funds. Different levels of personal information unlock different levels of functionality on the account. Personal data and address are not necessarily verified (depending on location) for tiers 0-2 although government issued identity is (tiers 3 and 4). This (and proof of address) has to be scanned and uploaded before going for manual processing.

**Score: 7/10**

**User Experience and Perception**

Kraken operates with five tiers with increasing levels of functionality and trading values/caps from tier 0 (lowest) to tier 4 (highest). The requirements and functionality for each tier are clearly laid out, making it easier for the user to choose what best fits them. On the downside it is a little fiddly and the delay until verified could be frustrating.

**Score: 3/5**

**Comments**

Kraken is tailored to meet stricter KYC and AML requirements in countries such as Germany, Japan and the USA. The different tiers combine automated and manual inspection which whilst effective does delay new users from undertaking higher value transactions. It was not clear from the sign-up process but 2FA authentication could be activated from within the settings so there is some effort to provide additional security tailored to the user’s preferences too.

**Liqui****Total: 12/20**

Liqui is a Ukrainian crypto exchange ranked 21st by 24-hour transaction value processed. Its management team state that “trust has to be built” and it expresses a wish to add fiat currencies to its capabilities.

**Account Application and Activation**

Registration from the home page consisted of 3 short steps that took 1m15s to complete.

**Score: 5/5**

**Identity Verification and Security**

Activation required username, password and email. There was no identity verification required. A time-limited OTP was sent via email for the initial log-in.

**Score: 4/10**

**User Experience and Perception**

The process was fairly straightforward, but the user experience was not particularly assuring. It was only when receiving the OTP that mention of additional 2FA was discovered but there was no instruction how to do this.

**Score: 3/5**

**Comments**

Liqui comes across as a technical or professional trading platform. Performance charts and data dominate the site. It does not provide a lot of background information on itself or qualitative information that less experienced users may want. This is reflected in its relatively small user base (less than 1,500 of 283k were online when checking) for a platform that is amongst the top 25 by value. Given the more professional user and higher value trades it is surprising that more security is not in evidence and no identity verification is implemented.

**LocalBitcoins.com****Total: 12/20**

LocalBitcoins.com is a different type of exchange, one that facilitates peer-to-peer transactions in place of a centralised exchange. It enables people to buy and sell crypto currency locally, meeting in person, or online. It supports various means of payment, including cash (if in person), online banking and other payment services, such as Dwolla, PayPal and Skrill.

**Account Application and Activation**

The sign-up and on-boarding procedure was quick and simple, taking 1m20s to complete the 3 steps.

**Score: 5/5**

**Identity Verification and Security**

Registration involved username, email and password. Apart from email verification there was no additional mechanism for to submit an identity credential. An additional measure, called Login Guard is active by default; this involves an email-based notification when logging in from a new device. The user is prompted upon log-in to enable 2FA utilising a mobile OTP or printed code.

**Score: 4/10**

**User Experience and Perception**

Whilst LocalBitcoins.com does not have evident high security it does provide advice and guidance to improve user awareness and educate them on best practice to safely use the platform. The on-boarding experience is quite straightforward although there is little apparent to highlight security and the lack of any identity verification does not create an impression of a particularly safe and secure environment.

**Score: 3/5**

**Comments**

Whilst the homepage is dominated by pricing data and advertisements relating to transactions the user does have to look for additional information on the way the site works. It is a different type of exchange which provides a less formal trading environment. Additional security and more attention to security and identity could boost the platform's image.

**Poloniex****Total: 15/20**

Poloniex is an US-based exchange promoting itself as offering maximum security and trading features. It claims to be the world's most active crypto exchange. Its security is based on the majority of its assets being held in offline cold storage with only what is necessary for facilitating trading being online at any time. It was ranked 11th by 24-hour transactional value.

**Account Application and Activation**

Poloniex had the longest on-boarding procedure of any wallet or exchange in this assessment. It was detailed, involving 11 steps and took 7m58s to complete.

**Score: 2/5****Identity Verification and Security**

Initial account registration involved some personal information (e.g. country of residence), email and password before email verification to complete the next stage of registration. Before trading it is necessary to submit further personal information to complete your user profile for verification. This included address and a government issued identity document, captured via the webcam along with a "live" headshot for comparison.

**Score: 9/10****User Experience and Perception**

The application and activation stage was comparatively long but it was very thorough which creates an impression of trust. Everything went well apart from the minor point of having to submit the identity document more than once as part of the image was obscured by light reflecting off the laminated surface of the passport photo page.

**Score: 4/5****Comments**

Poloniex had one of the best identity verification processes in place which aided the overall impression of the site being safe and secure. Its digital identity capture and verification system worked well and gave almost immediate confirmation, allowing the user to trade within minutes of starting the account opening process.

**QuadrigaCX****Total: 15/20**

Based in Canada, QuadrigaCX is ranked as the 32nd crypto exchange by 24-hour transactional value. It highlights its advanced trading functions, same day funding and withdrawal and security. Several announcements on the homepage related to security issues and concerns affecting the market, accompanied by what it is doing to address/minimise these where relevant.

**Account Application and Activation**

QuadrigaCX had one of the quickest activation processes, involving 3 steps (including an additional security mechanism) that took 1m43s to complete.

**Score: 5/5****Identity Verification and Security**

The procedure started with a little additional personal information, including DOB and country of residence. In addition to a password the user creates a 4-6 PIN to authorise transactions. There was no additional identity verification implemented but there was an option to enable 2FA via email or Google Authenticator.

**Score: 6/10****User Experience and Perception**

The overall process was straightforward and the addition of the transaction PIN helped to boost the perception of security and that the user was in control.

**Score: 4/5****Comments**

Despite its strong focus on security there was no evident identity verification as part of the on-boarding or registration procedures. However, QuadrigaCX does reference on its homepage that Canada Post Verification is now live although this requires the user to visit a Canada Post retail outlet to perform the check on-site (which is not always convenient and cannot meet international users' requirements). This process could be more convenient and automated, allowing QuadrigaCX to provide the same level of assurance to all users.

**YoBit.net****Total: 11/20**

YoBit.net reveals very little information about itself and publishes nothing on its website about itself. It was ranked 28th in the list of crypto exchanges by transactional value.

**Account Application and Activation**

YoBit.net's on-boarding process consisted of 3 steps and took 1m25s to complete.

**Score: 4/5**

**Identity Verification and Security**

There was not a lot of security evident, with only user log-in, email and password needed to register an account. This was followed by a simple email verification and a recommendation to enable 2FA in the settings.

**Score: 4/10**

**User Experience and Perception**

It was quick and easy to apply for and confirm registration of an account although additional information is hard to come by without the use of the user chat or entering a support ticket.

**Score: 3/5**

**Comments**

Although the application and on-boarding are quick and simple the site itself is not so clear and easy to navigate, being dominated by a mass of data and charts. It limits its appeal, particularly to novice users as there is virtually no information or guidance available and steps to boost the perception of security could help to improve its projected image and add some assurance for users.

## Disclaimer

This assessment was conducted in April and May 2018. Companies were selected for inclusion in good faith, based upon research and guidance utilising primary and secondary sources conducted to the best of our knowledge with the various sources available. This list is not definitive and it is not intended for advisory or investment purposes and any business decisions should be made in accordance with outside counsel.

## About the Author

P.A.ID Strategies is a provider of information and market intelligence on global and local technology markets designed to deliver insight and understanding to its audience. It specialises in assessing go to market strategies, acceptance and uptake of new and disruptive technologies, assessing both the technology and commercial carriers and drivers.

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