

ALPHA EXCHANGE INC.

REQUEST FOR INDUSTRY FEEDBACK REGARDING TRADING OF DIGITAL ASSETS ON TSX ALPHA EXCHANGE

Alpha Exchange Inc. (“**Alpha**” or “**we**”) is publishing this Consultation Paper to solicit initial feedback regarding its proposal to permit the trading of digital assets on TSX Alpha Exchange as described below. Alpha intends to use the feedback received to inform its decision on whether to proceed with the proposal, including potentially modifying the proposal based on the feedback received, soliciting additional feedback, and determining whether to submit an application to the Ontario Securities Commission for regulatory approval (including publishing a formal Request for Comment).

Market participants are invited to provide comments. Comments received will not be published. Comments should be in writing and delivered by August 18, 2023 to:

Joanne Sanci
Senior Counsel, Regulatory Affairs
TMX Group
100 Adelaide Street West, Suite 300
Toronto, Ontario M5H 1S3
Email: tsxrequestforcomments@tsx.com

Background

Over the past few years, the digital assets markets, and the cryptocurrency (or “**crypto**”) markets in particular, have been growing dramatically globally as have their adoption into the mainstream for trading and investments; particularly by retail investors. There are a number of crypto trading platforms operating in Canada, but the stock exchanges, investment dealers and other wealth management professionals in Canada have generally not yet entered the digital asset markets. The successful launch of crypto exchange traded funds in 2021 (for example, Bitcoin or “**BTC**” and Ethereum or “**ETH**”) allowed for more retail investors to add digital assets to their portfolios. However, this may not have addressed the growing demand for trading and investment in the underlying crypto assets, and the ability to trade crypto through a familiar recognized and regulated capital markets ecosystem. Recent publications from the International Organization of Securities Commission (“**IOSCO**”) on crypto and digital asset markets¹, as well as lawsuits from the U.S. Securities and Exchange Commission (“**SEC**”) against a number of prominent Crypto Trading Facilities, highlight the demand for regulated exchanges that are unencumbered by the conflicts of integrated exchange / dealer / market maker structures that have dominated the digital landscape.

¹ [IOSCO Policy Recommendations for Crypto and Digital Asset Markets](https://www.iosco.org/library/pubdocs/pdf/IOSCOPD734.pdf) - Published May 2023
<https://www.iosco.org/library/pubdocs/pdf/IOSCOPD734.pdf>.

Proposed TMX Digital Asset Ecosystem™

TMX Digital Platform™ on Alpha

Alpha is proposing to become the first fully regulated stock exchange to permit trading in digital assets in Canada. While leveraging other expertise, technology and infrastructure, Alpha intends to provide a regulated member-based exchange for dealers (the “**Participants**”) registered with applicable securities commissions and Canadian Investment Regulatory Organization of Canada (“**CIRO**”), and offer an entire ecosystem for trading of spot crypto, clearing and settlement (the “**TMX Digital Asset Ecosystem**”).

Initially, Alpha will facilitate spot trading of Bitcoin and Ethereum cryptocurrencies. We anticipate operating an environment where the only crypto entering the ecosystem will be from Participants and eligible sponsored clients approved to be liquidity providers.

TMX Digital Platform Membership

Platform membership must be requested to be enabled for the TMX Digital Platform. In addition to any other documents which may be required by applicable regulation, dealers must sign an agreement with a TMX approved custodian and settlement agent to facilitate custody and settlement obligations resulting from platform activity.

TMX Digital Platform Access

Participants will be able to access the platform through one or several net new Alpha order entry sessions. The order entry sessions will be restricted to digital order flow.

TMX Digital Platform Operating Times and Sessions

The TMX Digital Platform will accept digital asset orders from 8:00 a.m. to 5:00 p.m. (EST). The platform will provide for a continuous trading session during this time. There will be no opening or closing auction.

Pre-funding and Order Validation

Participants will be required to prefund digital and cash accounts at a TMX approved custodian prior to trading on TMX Digital™. This pre-funding requirement is to ensure that settlement risk is eliminated from the TMX Digital Ecosystem™. TMX Digital will not allow the cumulative value of a Participant's active buy orders to exceed the participant's cash balance in custody.

Conversely, TMX Digital will not allow the cumulative volume of a Participant's active sell orders to exceed the Participant's digital asset balance in custody. Orders will be validated against the participants' digital asset and cash custody account balances prior to being accepted to the platform. In the event a custody account balance is insufficient the order will be rejected with a stated reason.

Order Types and Features

All order types and trading functionalities currently available on Alpha will be available on the TMX Digital Platform with the following exceptions:

1. Price Type - Price type will be restricted to Limit prices to ensure proper valuation of the order by the validation module.
2. Order Volume - Order volume for digital assets will be in milli-coins (1/1000th of a digital coin).
3. Time in Force - Time in Force duration will be restricted to “Day” (current TSX Alpha Exchange restriction)
4. Board Lot - Board lot for a digital asset will be set to 1.
5. Odd Lot Dealers - The platform will not offer odd lot dealer services as they do not apply to digital assets.

Market Data

Data on TMX Digital trades will be disseminated through the TSX Alpha Exchange broadcast, Level1, Level 2 and Binary feeds.

Custody and Settlement

Custody

Alpha anticipates using Fidelity Clearing Canada ULC (“**FCC**”) as the custodian and settlement agent for Participants on TMX Digital. Participants must enter into a custodian agreement with FCC to participate on the platform. All participant interactions as they relate to custody will be between FCC and the Participant.

FCC was Canada’s first regulated digital asset custodian, receiving CIRO (then IIROC) and OSC approvals in November 2021. All custody services provided by FCC to TMX Digital participants will be within the confines of CIRO and OSC approvals.

Deposit and Withdrawal

FCC will permit the in-kind deposit of digital assets from Participants. For all digital assets deposited with FCC, FCC, through its sub-custodian, Fidelity Digital Asset Services, LLC (“**FDA**”), will conduct AML² and on-chain analytics to ensure that all AML and OFAC other checks are performed, ensuring the veracity of the digital assets within the TMX Digital Asset Ecosystem. FCC reserves the right to reject coins which score below threshold during the on-chain analysis. In-kind withdrawal of digital assets is permitted with strict controls in place, including white-listing and pre-testing the destination wallet(s) being used by each Participant, with each transfer out request being subject to FCC’s Policies and Procedures as approved by CIRO and in conjunction with the Participant.

FCC will work with each Participant to white-list and pre-test approved wallet addresses with each Participant for the purposes of deposit and withdrawal of digital assets. FCC will not accept deposits or withdrawals directly to/from ‘retail’ wallets, all counterparties must be at the Participant level.

² While AML checks will be performed by the sub-custodian, individual dealers are still required to perform and fulfill any AML obligations applicable to them.

Custody of all assets, digital and cash, will be as per CIRO rules with client assets segregated from FCC assets and recorded on the custody system as such.

Cash deposits will be as per normal processes, using wires to deposit USD and CAD into a Participant's custody account.

Settlement

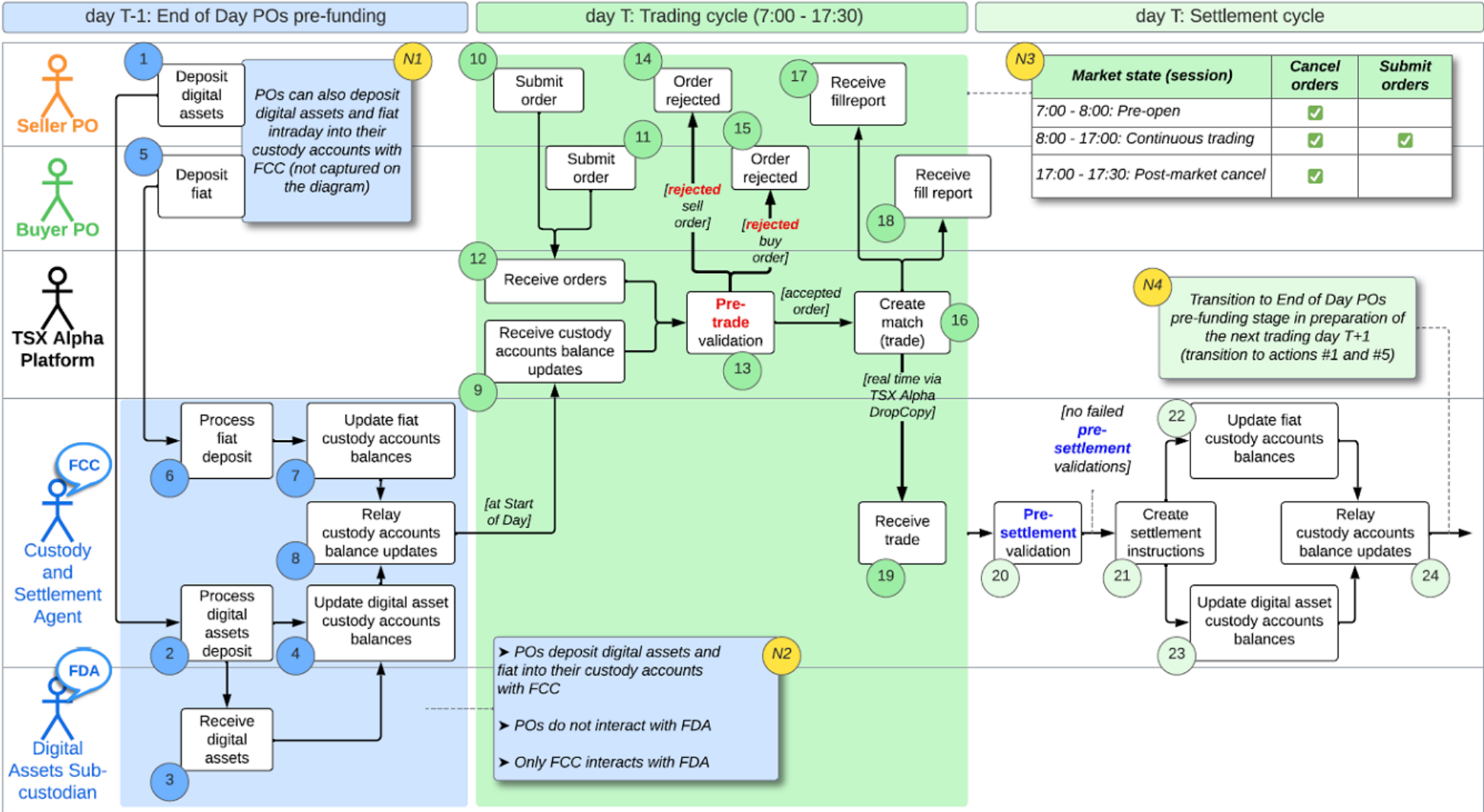
FCC will provide all participants with settlement services in line with CIRO rules. TMX Digital will provide FCC with fill notifications for all trades completed on the TMX Digital platform and FCC will affect the movement of cash and digital assets between participant accounts to reflect the net trade amounts as per CIRO broker-to-broker settlement. FCC is not providing capital or acting as a central counterparty, all trades and settlements are on a broker-to-broker basis as per CIRO rules.

For settlement, FCC will compress trades, also known as netting, as per CIRO netting rules for broker-to-broker settlement and effect the necessary cash and digital asset movements within FCC's custody system with the cash and digital asset movements recorded in each custody account. As all trading is pre-funded, it requires no actions outside of FCC's custody system for settlement as the assets are already resident in the custody system.

Settlement is currently envisioned to occur at the end of the trading day on trade date (T).

Digital Asset Buy or Sell Order - Diagram

The diagram below outlines the flow for the life of an order in the TMX Digital Asset Ecosystem, and the table that follows the diagram provides details of the steps involved. For purposes of the example, we have used Bitcoin ("BTC") as the digital asset being traded, and "PO" means Participating Organization.



Step	Day	Description	Notes
Day T-1: Pre-funding and data validation submission			
TMX Digital will require participants to have digital and cash assets on deposit with FCC if they would like to submit buy and sell orders. Sell orders will be validated against the digital assets on deposit and buy orders against the cash assets on deposit prior to acceptance to the platform.			
1-3	T-1	Participant deposits digital assets into their TMX Digital Asset Custody account at FCC	<p>Participants are able to deposit digital assets into their TMX Digital Asset Custody account held with FCC. Unique wallets are maintained for each participant by FCC's sub-custodian for the purposes of depositing digital assets, with each unique wallet address at FDA correlating to a custody account on FCC's custody system.</p> <p>Deposits are initiated by the participant through FCC's web interface (1, 2). Upon receipt of the digital assets by FDA (3) the digital assets are analyzed using a third party tool to ensure AML and other processes are executed.</p>
4	T-1	Participant's TMX Digital Asset Custody account updated	Upon successful completion of steps 1-3, the participant's TMX Digital Asset Custody account is updated to reflect the new balance and the assets are available for the participant's use for trading on TMX Digital.
5,6	T-1	Participant deposits cash into their TMX Cash Custody account at FCC	Participants initiate wire transfers (USD or CAD) (5) and are received by FCC (6). FCC inbound wire policies and procedures executed.
7	T-1	Participant's TMX Cash Custody account updated	Upon successful receipt of inbound wire, the participant's TMX Cash Custody account is updated to reflect the current balance. The fiat balance is now available for the purposes of trading on TMX Digital.
8	T-1	Custody positions are sent to TMX Digital	FCC provides TMX Digital at start of day (SOD) with cash and digital asset balances for all participants for the purpose of

Step	Day	Description	Notes
			TMX executing pre-trade validations to ensure all trades are pre-funded.
Day T: Order submission, validation, trading, and settlement record creation			
9	T	TMX Digital receives at SOD digital assets and cash custody positions from FCC	Digital assets and cash custody balances will be used by the TMX Digital validation module to ensure buy orders (if executed) will have sufficient fiat to facilitate settlement and sell orders (if executed) will have sufficient digital assets to facilitate settlement.
10	T	The selling PO submits an order for BTC	A TMX Digital order entry session must be used to submit orders to the platform.
11	T	The buying PO submits an order for BTC	A TMX Digital order entry session must be used to submit orders to the platform.
12	T	Orders are received by the TMX Digital Platform	
13	T	The orders are validated against the custody balances for both the buying and selling POs	Buy orders will be validated against their fiat balance and sell orders will be validated against their digital balance.
14	T	If it does not pass validation, selling PO order is rejected with a stated reason	TMX Digital will not allow the cumulative volume of the participant's active sell orders including the sell order being validated to exceed the participant's digital asset balance in custody.
15	T	If it does not pass validation, buying PO order is rejected with a stated reason	TMX Digital will not allow the cumulative value of the participant's active buy orders including the buy order being validated to exceed the participant's cash balance in custody.
16	T	A match is created between the buyer and seller, fill and trade reports are generated	Matching priority will follow price/broker/time.
17	T	A fill report is received by the selling PO	Standard fill responses.
18	T	A fill report is received by the buying PO	Standard fill responses.

Step	Day	Description	Notes
19	T	TMX Digital provides FCC with trade/fill information in real time	TMX Digital provides FCC with trade-level fill information. FCC stages this information for use at the end of day.
20	T	Pre-settlement validation	FCC performs a pre-settlement validation for all participants to ensure sufficient cash and digital assets are held in custody for each participant for settlement. If any settlement breaks occur, FCC Operations notifies the affected participants for resolution.
21	T	Trades are compressed and settlement instructions are created	Trades are compressed (netted) as per CIRO rules for broker-to-broker settlement. A net trade file is generated and transacted into the custody system. The required cash and digital asset movements are recorded at the participant level to effect settlement as per the compressed (net) trade files. Relevant net trade information is recorded at the account level.
22	T	POs' TMX Cash Custody accounts balances are updated	The post settlement cash balances for all participants are updated.
23	T	POs' TMX Digital Asset Custody accounts balances are updated	The post settlement digital asset balances for all participants are updated.
24	T	Relay post-settlement TMX Digital Assets Custody and TMX Cash Custody accounts balances for POs to TMX Digital	FCC relays post-settlement fiat and digital custody accounts balances to TMX Digital in preparation of the next day's trading session.

TMX Digital Alignment with IOSCO Policy Recommendations

IOSCO recently published a consultation report setting out 16 policy recommendations with respect to crypto and digital asset markets (“**IOSCO Report**”). The chart below sets out how TMX Digital addresses each of the policy recommendations outlined in the IOSCO Report. Please see the IOSCO Report for further details on each of the policy recommendations set out below.

IOSCO Recommendation	TMX Digital
Common Standard of Regulatory Outcomes (1)	TMX Digital will be subject to surveillance from CIRO, in a manner that is very similar to the surveillance of existing equities trading.
Recommendations On Governance And Disclosure Of Conflicts (2) Disclosure of Role, Capacity and Trading Conflicts (3)	TMX Digital governance and disclosures of conflicts will be similar to those TMX enforces for existing equities trading.
Client Order Handling (4) Market Operation Requirements (5)	Client order handling rules and Market Operations will be virtually identical to the rules and policies currently used for trading equities on the TSX Alpha Exchange.
Admission to Trading (6)	TMX Digital will start with two coins - Bitcoin & Ethereum. We are contemplating a committee to evaluate any future coin offerings, to ensure appropriate controls around the posting of any future digital assets.
Management of Primary Markets Conflicts (7)	TMX will facilitate trade. As is the case in equities, we will not act as a market maker or broker dealer, or have the share in the economics of any other participant operating in such a role.
Overarching Custody Recommendation (12) Segregation and Handling of Client Monies and Assets (13) Disclosure of Custody and Safekeeping Arrangements (14) Client Asset Reconciliation and Independent Assurance (15) Securing client money and assets (16)	Custody of digital assets and cash will be as per CIRO and OSC exemptive relief, with all participant cash and digital assets segregated on books and records from FCC assets. Daily reconciliation is performed inline with CIRO regulations. FCC conducts all audits as required by applicable regulations and exemptive relief.
Retail Client Appropriateness and Disclosure (18)	TMX Digital will deal with CIRO approved institutions only. Each institution will make their own determination around the appropriateness of such assets for their retail clients.

Frequently Asked Questions

1. How will you ensure that all coins in the ecosystem are 'clean'?

All coins being deposited into the ecosystem will be analyzed and scored using a third party on chain analytics tool to ensure that the coins are of good province. Coins which do not meet the minimum standard will not be permitted into circulation within the ecosystem.

2. Will assets held at the custodian be lent out?

Digital assets held by the custodian will not be lent, rehypothecated, or otherwise encumbered without prior knowledge. At this time, the lending of digital assets is not permitted by the regulator.

3. Is it anticipated that any of the service will be unregulated?

It is anticipated that all aspects of the solution will be regulated by the appropriate regulatory body.

4. What skills will we need in-house? Will we need to operate our own digital asset wallets?

The solution is designed as a service with minimal in-house specialized skills required. Participants will need digital asset skills in-house and to operate their own wallets if they wish to deposit or withdraw Bitcoin or Ether to/from the custodian. Should they not need to deposit or withdraw Bitcoin or Ether to/from the custodian and simply trade and hold within the ecosystem, then they would not require their own digital asset wallets.

5. Are there any regulatory requirements that dealers need to be aware of in order to trade digital assets on TMX Digital?

Dealers are required to notify CIRO of any significant changes to its business model. Trading in digital assets may constitute a significant change to its business model if it is not contemplated in a dealer's current business model.

Questions

In responding to any of the questions below, please explain your response. **All responses will be kept confidential.**

Operational

1. Please share your firm's interest and view on enabling spot trading of digital currencies for your clients.
2. What challenges do you foresee for your firm utilizing the proposed TMX Digital Asset Ecosystem? Are there areas or mechanics that you would change? If so, what areas or mechanics?
3. If your firm determines to become a Participant of TMX Digital, how much time do you foresee your firm needing (eg. for internal approvals, testing, etc.) before being able to utilize the TMX Digital Platform?
4. As discussed above, all coins deposited into the ecosystem will be screened, using on chain analytics. Do you have AML concerns that extend beyond some screening of coins?

5. Do you foresee any pricing challenges (for example, trading costs, custody costs, etc.) that would preclude you from trading digital assets on the TMX Digital Platform?
6. Digital transactions currently typically settle on trade date (T). TMX Digital will be leveraging the equity trading infrastructures of the Exchange and also the dealers that participate. Would back office reconciliation and other back office activities for Digital transactions fall within existing workflows if they settled T+1? Which settlement date is preferred: T or T+1?
7. Context: Participants are expected to deposit digital assets and crypto at the end of the day, more specifically, after the completion of the settlement cycle, but also intraday to top up their digital asset balance in custody as required to provide for the pre-trade validation logic to let their sell orders through.
8. Are participants open to the idea of withdrawing digital assets only during the interval between the completion of a settlement cycle (T) and the start of the next trading day (T+1)? That is, are participants open to the idea of not being allowed to withdraw digital assets intraday (at least initially, as allowing intraday withdrawals adds complexity to the solution, especially if we decide on T+1 settlement)?

Trading

9. Currently, Alpha imposes an order processing delay (also known as a "speedbump") on certain inbound orders. Should an order processing delay apply to digital assets?
10. Should digital assets be subject to single stock circuit breakers, similar to those currently used for equity products? If so, what bands do you deem appropriate?
11. Are there any additional trading functionalities that should be adopted for digital assets?
12. Are there any order types currently in use on the equity trading venues that we should explicitly remove from digital assets trading?
13. Should Alpha create a separate order book for digital assets or should the TMX Digital Platform form part of the existing Alpha order book?
14. We currently envision trading in Bitcoin and Ethereum, with the potential to add new coins as demand dictates. Are there other digital assets you believe we should consider? What metrics do you think TMX should consider when looking to post new coins / digital assets?
15. Should we offer dark trading in digital assets?
16. Is there any value in having a closing auction for digital assets?
17. Are Participants comfortable with the order volume for digital assets in milli-coins (1/1000th of a digital coin) across the board? This would not allow buying and selling the smallest bitcoin fraction, a satoshi, or one hundred millionths of a bitcoin. As well, it may prove restrictive should TMX Digital decide in the future to onboard cryptocurrencies that trade for pennies, e.g. dogecoin.

Custody

18. Do you have any concerns with using a third party custody solution?

General

19. If you are currently using or evaluating other digital asset trading facilities, are there any best practices that we are missing in our proposal?

20. May TMX contact you to discuss your responses to the questions above, and the TMX Digital Platform, generally?