

Ontario Digital Service (TBS) & Infrastructure Ontario

Enterprise Digital Identity Program

Market Consultation Package

November 2020

A black and white photograph showing a close-up of a hand holding a white marker. The hand is positioned over a tablet device, which is lying flat on a surface. The background is a plain, light-colored wall. The lighting is soft, highlighting the texture of the skin and the smooth surface of the marker and tablet.

Note

Please treat all information shared in the email, this presentation, and during the process as confidential



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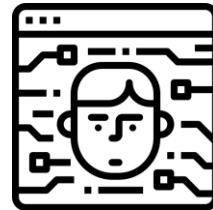
Digital Identity Vision & Scope

People and businesses of Ontario can create and use a trusted digital equivalent of their identity (verifiable credentials), to securely access public and private sector services anytime, anywhere, from any device.



DIGITAL VALIDATION and VERIFICATION

Confirming that information about the individual is correct and verifying that an individual's information is tied to a real identity



DIGITAL CREDENTIALS

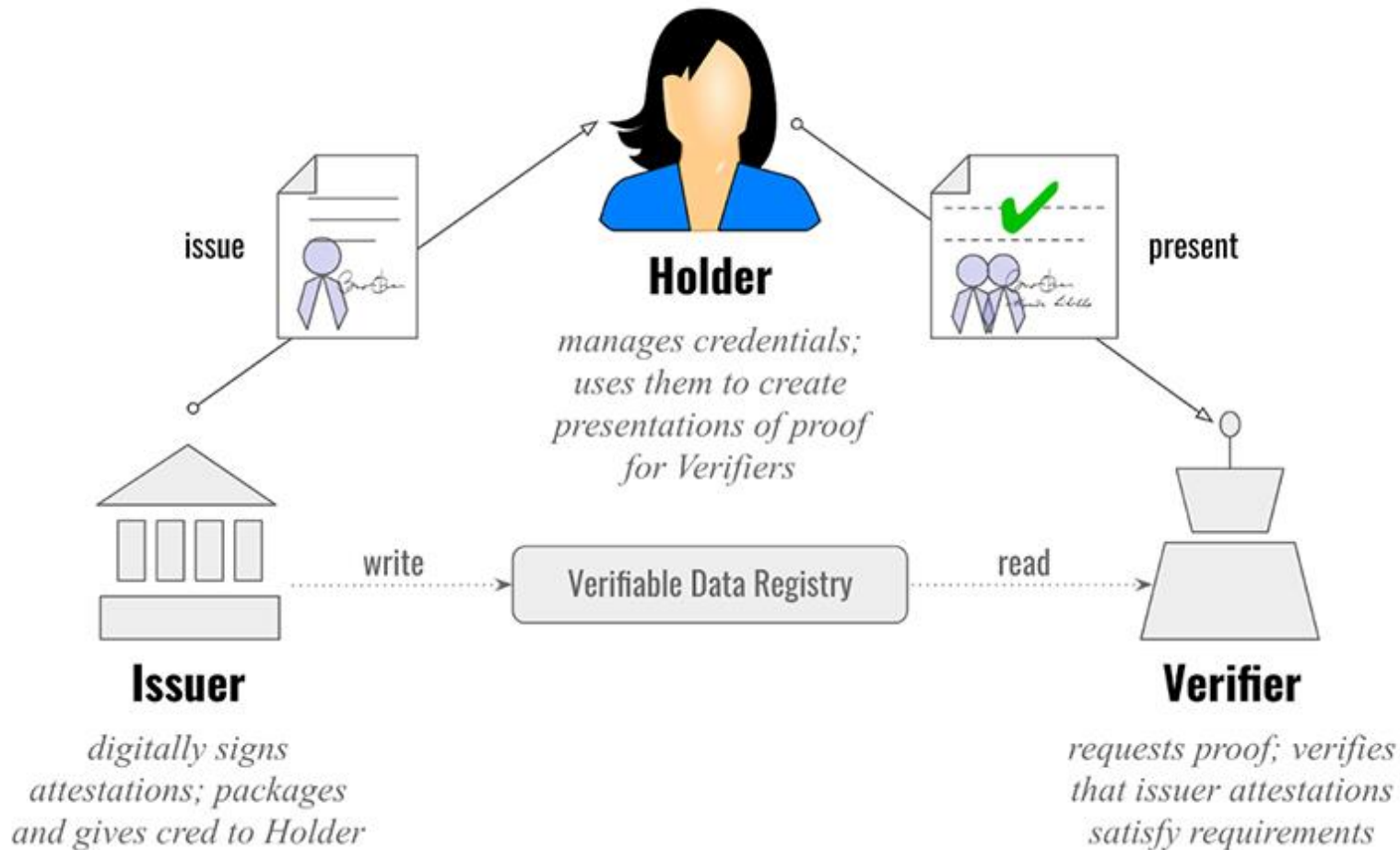
A reusable, trusted digital representation of an individual's information for use with public and private sector services



ACCESS MANAGEMENT

Providing the right individual the right access to the right information

Verifiable Credentials (VC) Model for DI



Source: [Evernym](#)

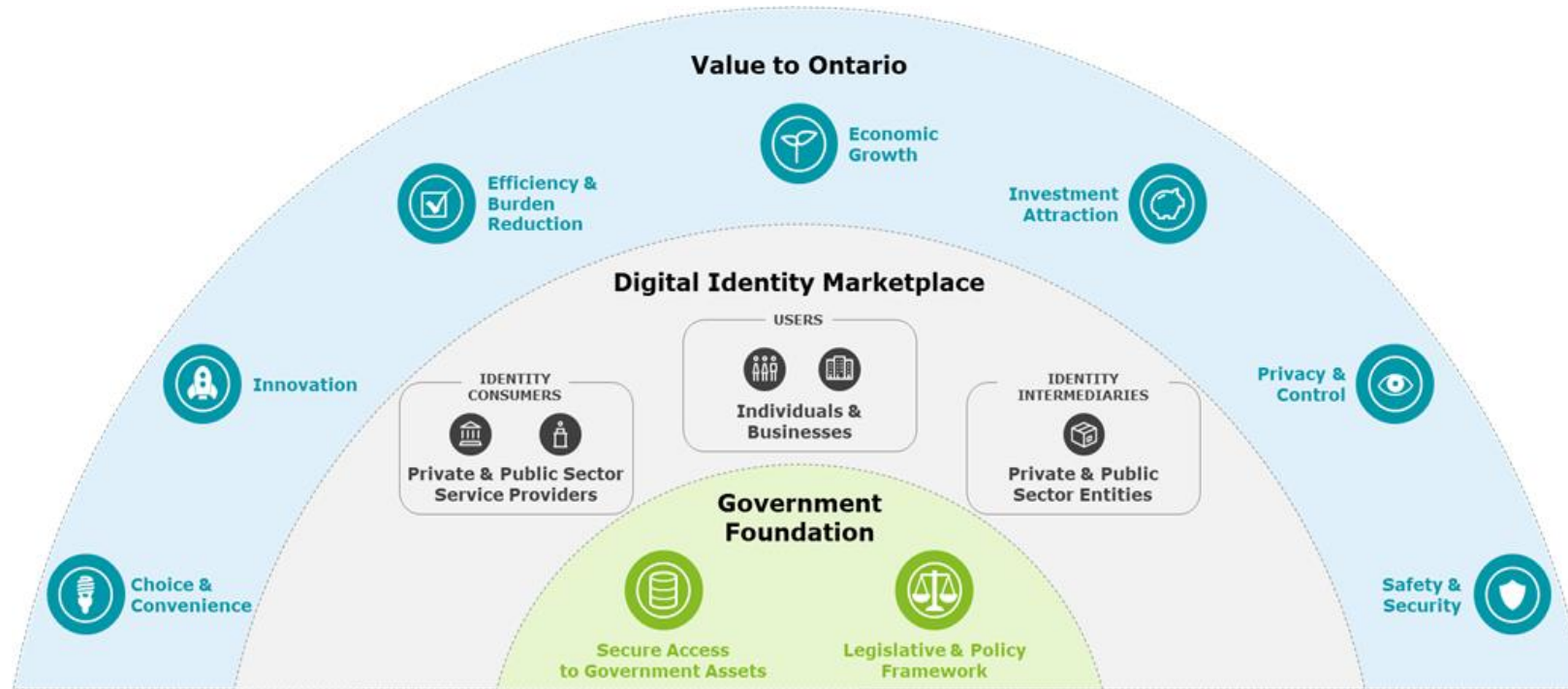
Why the VC Model?

- Open Standards & Interoperable
- More control over data and privacy for users
- Eases burden on Issuer (identity provider)
- Supports zero-knowledge proofs
- Future-proof Ontario's approach
- Scalable
- Aligns with Pan-Canadian Trust Framework

Public - Private Sector Collaboration

Partnerships Model Vision

Develop a **leading edge digital identity ecosystem enabling** Ontario organizations to **collaborate and drive economic growth** underpinned by a **secure and inclusive platform**



Value

Ontario has an opportunity to be a leading jurisdiction in Digital Identity.

Based on estimates of the impact of digital identity on GDP in mature economies by McKinsey Global Institute, Ontario stands to gain **\$8B - \$25B in economic value** alone.

Value to Individuals

- Greater **convenience**, channel choice and availability of services
- Increased **control** when sharing personal data
- More **streamlined online experiences**
- Greater **security**

Value to Businesses

- Increased **ease in doing business** from reduction of regulatory burdens
- **Reduced risk** of identity fraud
- **Cost savings** from moving to online channels
- **Opportunity** to participate in new markets

Value to Government

- **Increased efficiency** of government service delivery
- Acceleration of **digital transformation**
- Opportunity to **foster private sector** growth
- **Enhanced public safety** through fraud reduction
- Potential for new **non-tax revenue** streams

What has been done so far

The ODS has been leading work on Digital Identity across government:

- Completed **high level business model assessment** and developed recommended **Public-Private Sector Collaboration** approach to Digital Identity ecosystems
- Completed **user research** and prototype testing with 1600+ Ontarians to obtain insights on Digital Identity:
 - 79% are receptive to digital identity
 - 60% see direct personal value of using digital identity
- The Government's Corporate Policy on Electronic Identity, Authentication and Authorization (renamed the Corporate Policy on Identity and Credential Assurance), to reflect and align with the **Pan-Canadian Trust Framework for Digital Identities**
- Established Digital Identity as a **priority for transforming government** services, with strong support across government, including key partner Ministries (MTO, MOH, MGCS and MCCSS)
- Putting government data to use with API-based identity proofing – MOH pilot project to launch soon

Market Consultation Objective & Overview

OBJECTIVE

The Province is looking to develop a **Digital Identity (DI) ecosystem for both people and businesses to enable secure access to services anytime, anywhere, and from any device.** To realize the vision, the Province is looking to consult relevant public and private sector stakeholders in order to –

- Identify and assess the potential business model(s)
- Understand key elements to develop a successful partnership structure
- Discuss case studies and key learnings from private sector experience and other jurisdictions

ONTARIO ONWARDS

This initiative is part of the Action Plan, which is a roadmap to improve the overall functioning of government at a rapid pace, based on lessons learned during the ongoing COVID-19 pandemic. The Action Plan outlines how government will:

- Make public sector services and service delivery **modern** and **customer focused**;
- Make public sector **digital and data- driven** and put data at the centre of government decision-making; and
- Increase **efficiency, effectiveness and speed** of government operations and decisions.
- <https://www.ontario.ca/page/ontario-onwards-action-plan>

MARKET CONSULTATION OVERVIEW



- Engage like-minded public and private sector players to understand their perspective on digital identity, high value use cases, and where they are on the journey



- Share Ontario point of view and gather perspective from key stakeholders on necessary elements in maturing the digital identity ecosystem



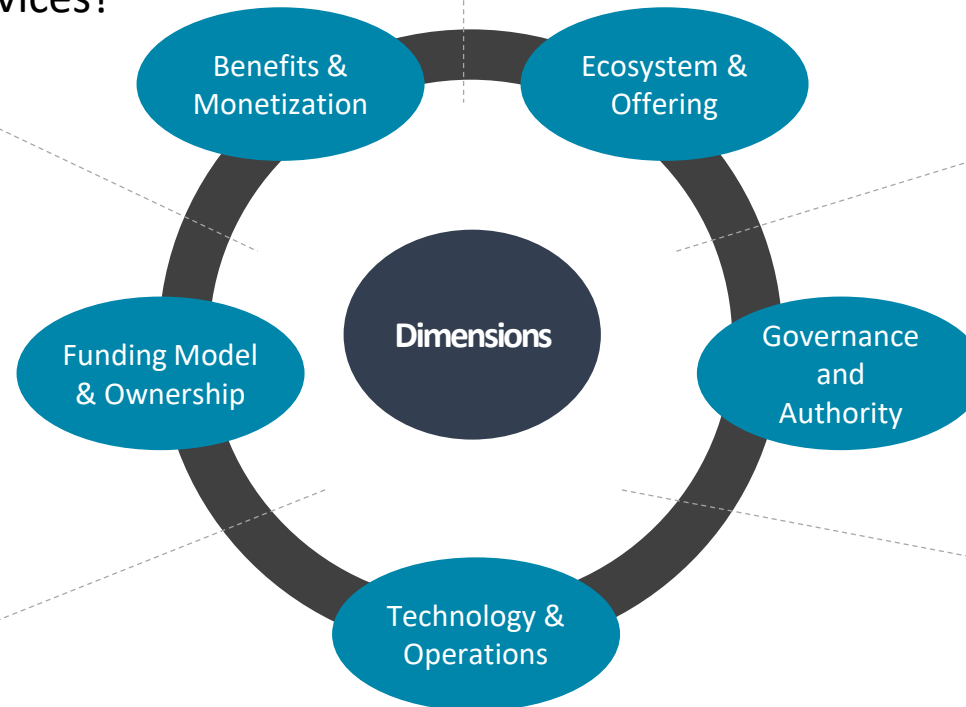
- Devise a go-forward approach leveraging the public-private partnership including ecosystem offering, governance, ownership, technology, and funding models

Market Consultation Dimensions – Illustrative

What kind of benefits can accrue for ecosystem participants? How can revenue be directly generated from digital ID services?

How will the private sector, public sector and citizens interact, and through what means? What roles will each stakeholder play in the ecosystem?

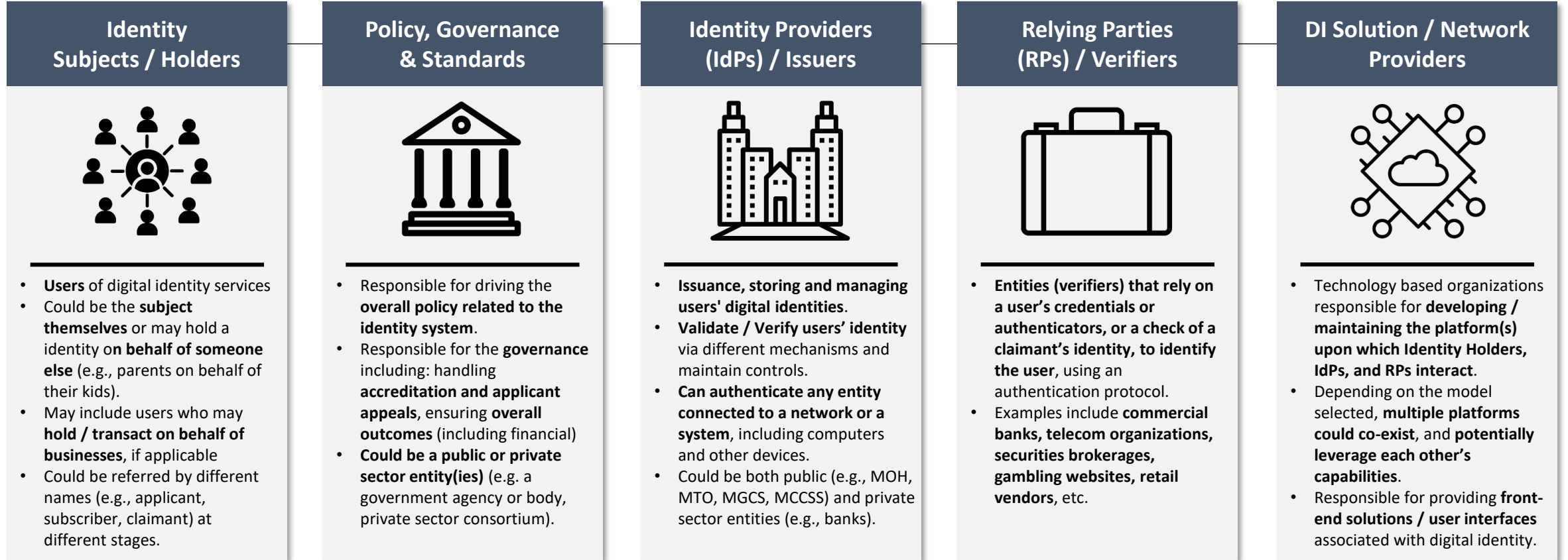
How would the private sector share costs with government? What are the shared risks? Should government provide the lowest level utility infrastructure to ensure security, availability, and independence?



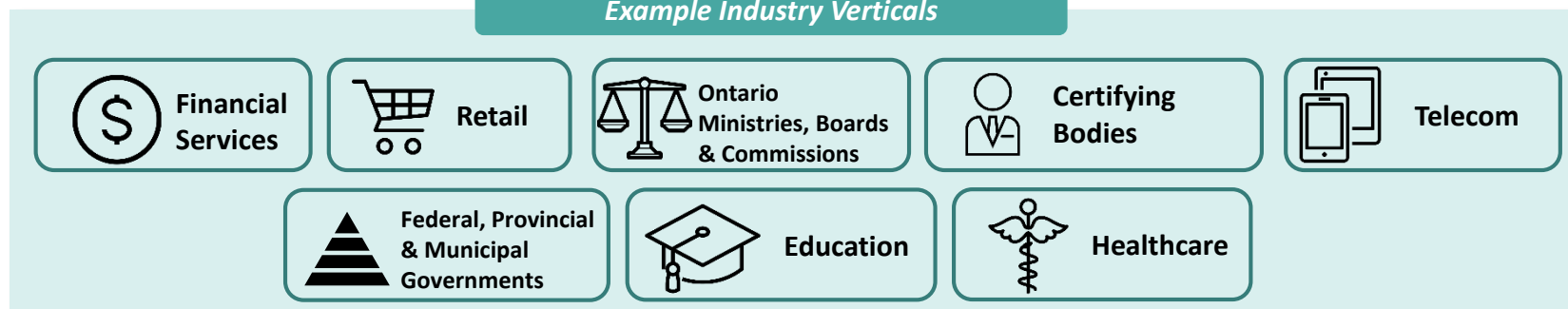
Who should collaborate with government to define what standards and protocols the digital ID ecosystem should leverage, and how?

How should the digital ID system structured (e.g., centralized, federated, decentralized, hybrid model, etc.)? Would different entities use different technologies / platforms in the future state? How would everything come together and sustained including continuous improvement / innovation?

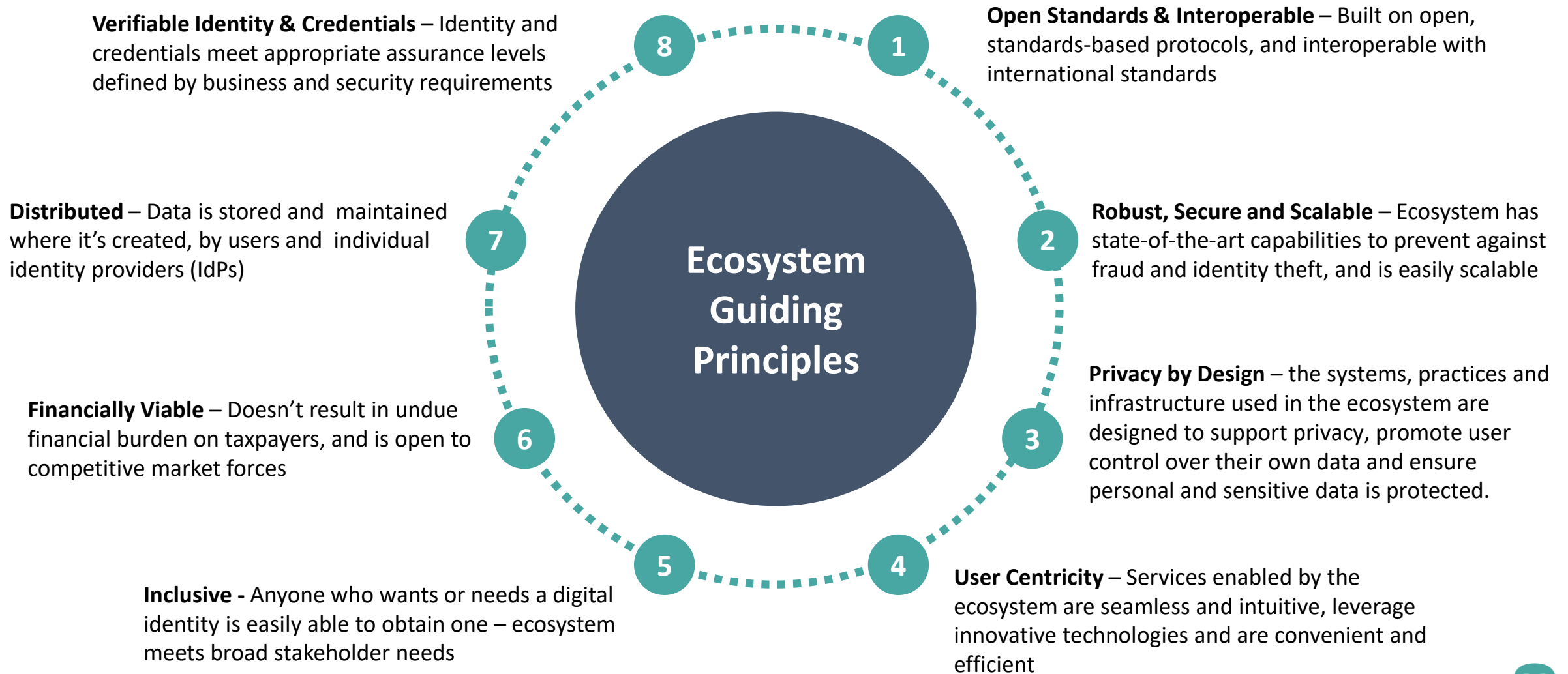
Ecosystem Participants



Example Industry Verticals



Ecosystem Guiding Principles – Illustrative



Ontarian Personas – People & Businesses

These personas represent a sample overview of some key use cases where individuals or businesses interact with various services. We will investigate how their experience can be improved through the implementation of DI.



Applying for child's health card



Applying for drivers licence



Registering a farm vehicle



Seeking access to essential services



Buying a home and applying for a mortgage



Applying to immigrate to Ontario



Small business applying for licences & permits



A new business sets up all the services



Filing income taxes



Sharing health information (or delegate control) to a POA, caregiver or family member



Applying for benefits (i.e. health, EI, etc.)



Registering a marriage



Applying for an apartment



Registering a loved one's death

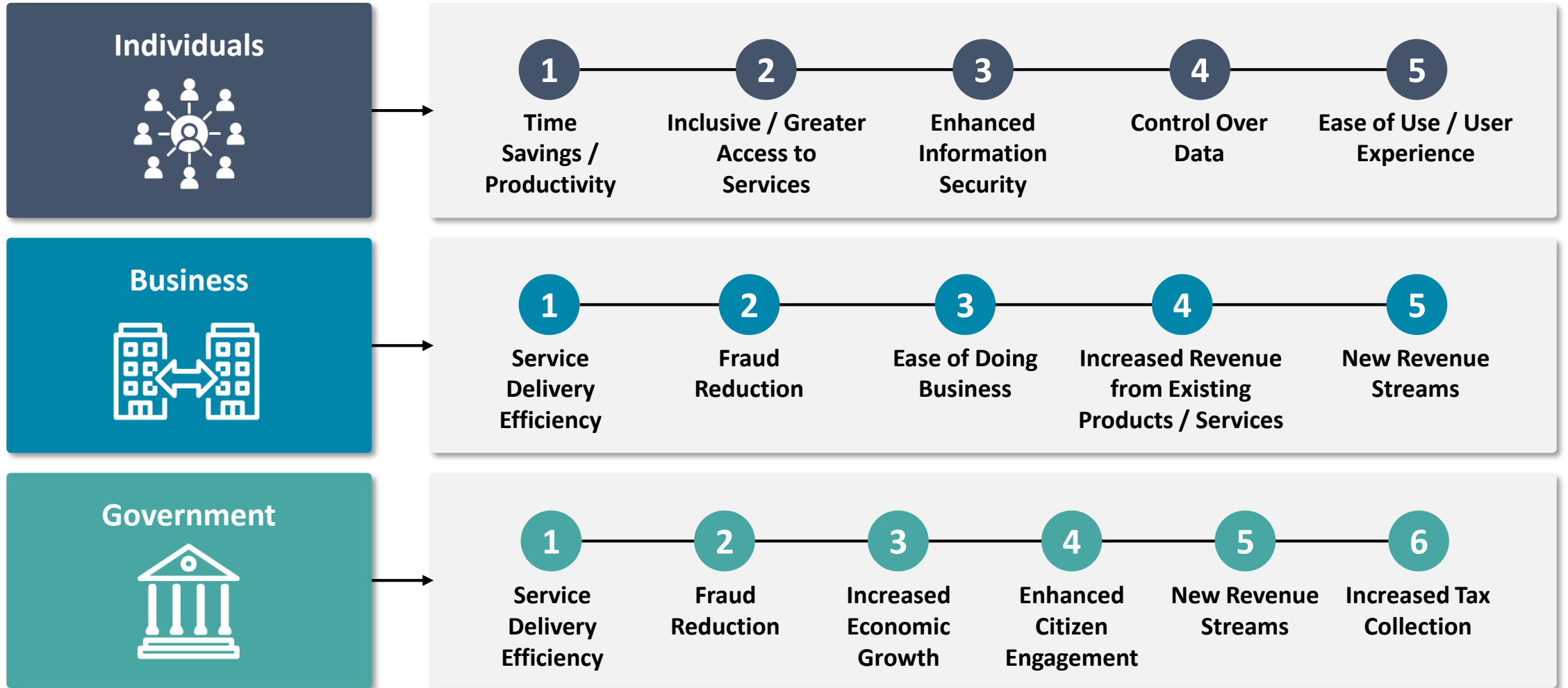


Company applying for environmental permissions



Corporation starts, dissolves or changes

Benefit Streams – Illustrative



Sub-benefits under each stream – Illustrative (1 of 3)

The map provides a holistic, enterprise view of the core and benefits associated with a digital ID ecosystem – it serves as the foundation for designing and enabling future state capabilities.

INDIVIDUALS				
<i>Time Savings / Productivity</i>	<i>Inclusive / Greater Access to Services</i>	<i>Enhanced Information Security</i>	<i>Control Over Data</i>	<i>Ease of Use / User Experience</i>
Reduced friction in managing accounts (e.g. no passwords required)	Streamlined social assistance (e.g. simplified social assistance application)	Reduced likelihood for fraud	Ability to share only necessary information (e.g. driving credentials)	Improved / engaging customer experience
Streamlined platform / portal(s) for services	Improved access to all kind of services (excluding social assistance)	Enhanced trust with consistent controls and guidelines	Greater data use transparency (i.e. more transparent consent when sharing digital identity data)	Greater user adoption
Remote access, through internet (vs. being physically present at a service location)	Improved access to employment opportunities	Limited false rejections (falsely rejecting an individual's ID)	Opportunity for individuals to monetize data	
Streamlined background verification through the use of digital ID (e.g. during job application)	Reduced discrimination (e.g. when applying for a loan – decision based on data)			
	Easier to vote (resulting in higher voter turnout)			

Sub-benefits under each stream – Illustrative (2 of 3)

The map provides a holistic, enterprise view of the core and benefits associated with a digital ID ecosystem – it serves as the foundation for designing and enabling future state capabilities.

BUSINESSES				
<i>Service Delivery Efficiency</i>	<i>Fraud Reduction</i>	<i>Ease of Doing Business</i>	<i>Increased Revenue from Existing Products / Services</i>	<i>New Revenue Streams</i>
Unified platform / single portal for verification / services	Greater customer assurance / lower likelihood of identity fraud	Greater client trust (by leveraging secure ID services)	Broader prospect reach through digital platforms	Unlocking new use cases
Improved customer onboarding process	Less error prone, manual processes	Simplified transactions involving multiple entities	New delivery channels for existing products / services	New customer reach (through digital platforms)
Improved customer service process	Reduced payroll fraud	Improved talent matching process	Opportunity to reinvent legacy products / services	New funds to re-invest back into the business
Improved customer off-boarding process	Higher security of digital payments	Improved access to verified contract workers (through validation of digital ID)	Greater customer loyalty (reduced churn)	
Quicker time to onboard new employees	Greater vendor trust (e.g. trade finance)	Reduced cycle time to establish a business (e.g. permits, licenses)	Reduction in lost prospects (through simplified sales processes)	
Lower cost of internal service (reduced manual resource time)				
Streamlined creditworthiness validation				

Sub-benefits under each stream – Illustrative (3 of 3)

The map provides a holistic, enterprise view of the core and benefits associated with a digital ID ecosystem – it serves as the foundation for designing and enabling future state capabilities.

GOVERNMENT					
<i>Service Delivery Efficiency</i>	<i>Fraud Reduction</i>	<i>Increased Economic Growth</i>	<i>Enhanced Citizen Engagement</i>	<i>New Revenue Streams</i>	<i>Increased Tax Collection</i>
Efficient delivery of government services & benefits	Less error prone / manual processes	Greater opportunity to transact with the private sector (through greater digital reach)	Simplified transactions involving multiple entities	Unlocked use cases	Opportunity for automated tax filing, collection, and disbursement through identity connection to financial institutions and employers
Quicker time to onboard new employees	More accurate credentialing process (greater assurance)			Ability to charge private entities for access	
Unified platform / single portal for verification / services	Reduced payroll leakage	New markets available to the private sector (e.g. ability to transact with citizens outside local geography)	Opportunity to build greater trust in government (should the ecosystem realize the stated benefits)	Additional funds to invest back into government services	Improved citizen credential accuracy (reduced manual follow-up required)
Improved resource productivity	Reduced benefit leakage				
Simplified business registration process	Facilitates institutional compliance with privacy regulations (reduced liability)	Improved worker productivity (through reduced focus on manual activities)			Reduced citizen delinquency
Online voting (higher voter turnout / fairer elections)	Reduced political donation fraud (i.e. verifying donations with digital ID)	Greater opportunities to employ the unemployed (government could target unemployed Ontarians who hold digital ID, proactively)			Less processing required (through automated processes)
Online school enrollment (improved overall enrolment)	Reduced voter fraud (fairer elections)				
Simpler land ownership / transfer transaction (reduced manual validation)	Secured sharing of sensitive information (e.g. medical records)	Reduced barriers for entrepreneurs (improved ability to transact with digital ID)			

Potential risks in a digital identity enabled world

Risks

Security & Privacy

- 1 Cybersecurity attacks (e.g., unauthorized access to data, leaks of private and confidential information, system disablement)
- 2 Privacy violations such as misuse, unauthorized use, manipulation of data credentials, non-compliance with organizations such as FINTRAC, etc.

Technology & Operations

- 3 Lack of standardization limits interoperability of ecosystems (e.g., provincial, federal, global) leading to lower overall benefits than expected
- 4 Lack of qualified resources to drive implementation and maturity of ecosystem
- 5 Program implementation and operationalization end up taking much more time and costs than expected
- 6 Technical maturity / digital infrastructure of stakeholder groups (i.e., financial services, telecom) not ready to adopt digital identity at scale
- 7 Unpredictable and costly technological failure and human error

Inclusion & Adoption

- 8 Lack of supporting infrastructure (e.g., access to internet) preventing inclusion of all Ontarians
- 9 Users and institutions are slow / resistant to adopt (e.g., comfort with technology, varied trust levels), due to a lack of education and awareness

Other

- 10 Lengthy policy, regulatory and legislative progress slowing delivery and project timelines
- 11 Inability of the core stakeholder group to agree on the future vision, governance, roadmaps and implementation plans in a timely manner
- 12 Competing priorities (e.g., COVID) lead to lack of funding or resource availability
- 13 Ministries / programs unable to undertake digital transformation of their services procure / build their own solutions to benefit from digital identity

Market Consultation Questions (1 of 2)

Please consider these questions as a guide of the overall breadth and depth of the market consultation process and feel free to share your responses only in areas with deeper experience / perspective; we are flexible about the format of your responses e.g., Word / PowerPoint

Category	Questions
Intro	<ol style="list-style-type: none">1. Briefly describe your organization's experience with digital identity in Canada and/or globally. What role do you see your organization playing in a digital identity ecosystem? (i.e. IDP, RP, Identity Network, infrastructure provider, technology provider, other)
Ecosystem & Offering	<ol style="list-style-type: none">2. How could partnership between the public and private sector be arranged to support the development of the DI ecosystem in Ontario? Government-led? Private sector-led? Consortium? Federated alliance of institutions? As a utility?3. What is the minimal role or involvement by government to establish a stable ecosystem environment, while promoting inclusivity, innovation and private sector involvement? What parts (if any) of the DI ecosystem do you feel must be lead, managed, owned by government in the interest of the public good?4. What benefits could be realized through public and private sector collaboration? What models of public-private collaboration have you observed in other jurisdictions that Ontario could adopt as a model? Are there specific partnership models that should be avoided and why?5. What attributes/features should a digital identities for individuals or businesses include (apart from basic authentication of name, date of birth, registration date, biometric, address). In other words, what other attributes or offerings should be included and why? (i.e. digital signature)6. The long-term vision of the government is to issue verifiable credentials to digital wallets that comply with recognized frameworks and standards such as PCTF and W3C verifiable credentials. Recognizing this and other related standards are still under development, how can government progress towards the verifiable credentials model while delivering on its commitment to launch a digital wallet to the public by the end of 2021?7. What is the best approach in this timeframe to ensure we deliver on this commitment? What role can your organization play in helping us deliver?8. What should be done to drive active user participation, engagement and adoption of digital identity in Ontario?9. What are the highest priority use cases for your organization and/or industry/sector that would benefit from the use of digital identities?10. How can unintended consequences of having digital IDs (e.g. social exclusion, tracing, furthering inequality, profiling) be prevented?11. How could the digital identity ecosystem be structured to protect data and privacy, build trust and reduce identity fraud? How can privacy concerns associated with the handling of sensitive user data be mitigated?12. Once the ecosystem is launched, how could it be matured across public and private sector? What can the government create the conditions for inclusion, competition, innovation, private sector investment and participation in the creation of a financially viable digital identity ecosystem?

Market Consultation Questions (2 of 2)

Please consider these questions as a guide of the overall breadth and depth of the market consultation process and feel free to share your responses only in areas with deeper experience / perspective; we are flexible about the format of your responses e.g., Word / PowerPoint

Category	Questions
Governance & Authority	<p>13. How should responsibilities for different parts of the Digital ID ecosystem must be delineated? What do you envision the role of Public Sector and Private Sector to be in the overall governance model? Do you see benefit in having the Province provide oversight for the ecosystem?</p> <p>14. What legal, policy or regulatory changes should be considered to support effective governance and growth of the digital identity ecosystem?</p> <p>15. What could the core guiding principles of the governance framework be?</p> <p>16. What could the key operating standards of the ecosystem be?</p> <p>17. How would be liability be shared among ecosystem participants?</p>
Technology & Operations	<p>18. What are the necessary foundational pieces of the ecosystem that can be stood up / enabled now while standards continue to mature and evolve?</p> <p>19. How would you address difficulties in accessing digital identity services for marginalized Ontarians, who may not have immediate access to a digital device or infrastructure (e.g. high-speed internet)?</p> <p>20. What is your perspective on how to mitigate other technology and operations related risks such as resource gaps, implementation delays, cost-overruns, technology changes over time, technology failure, misuse, device/IP/identity spoofing, bots?</p>
Funding Model & Ownership	<p>21. How should a digital identity ecosystem be funded? Who should be responsible for capital and operating costs? Any insights from financing a multi-entity ecosystem in the past, that may also have included public and private sector stakeholders? Should any parts of the DI ecosystem be owned and managed by the government, in the public interest/good?</p> <p>22. What are the risks associated with your recommendation? How those could be mitigated?</p>
Benefits & Monetization	<p>23. What are the opportunities for monetization in the ecosystem for various participants to support its overall longer-term sustainability (e.g., business to business, business to government or vice versa, end user fees, data-related services)?</p>
Wrap-Up	<p>24. Have you observed any case studies in other jurisdictions that have made significant progress in implementing a digital ID ecosystem? What has worked well and what are some of the key lessons learned?</p> <p>25. We have identified some potential risks associated with a digital identity enabled ecosystem – based on the list provided, are there additional risk categories or key risks that have not been addressed? Please share your perspective on mitigating the risks that haven’t been discussed so far.</p> <p>26. Is there anything else you would like to share about the approach to developing a digital identity ecosystem?</p>

Next Steps



Complete and share responses to the questions outlined in the package

(please consider the questions included as a guide and feel free to share your responses only in areas with deeper experience / perspective; we are flexible about the format of your responses e.g., Word / PowerPoint)

We will perform an in-depth review of each of the responses and that will inform the go forward strategy and approach for partnership models

We may invite a few organizations for further consultation should there be a benefit in a follow-up discussion based on the responses received

The overall go forward approach might be shared for further review, comments and refinements before finalization, as needed
