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Known Traveller Digital Identity

As part of The World Economic Forum's Future of Security in Travel Initiative, government and industry partners in The Netherlands and Canada are piloting the Known Traveller Digital Identity concept.

What is the Known Traveller Digital Identity?

Background

In January 2018 the World Economic Forum introduced its Known Traveller Digital Identity (KTDI) concept, an initiative co-designed by public and private sector partners that seeks to anticipate the challenges, and take advantage of the immense opportunities, that emerging technologies will present in the cross-border movement of people. The KTDI concept seeks to address the changing behaviours and expectations of travellers, the growing global traveller volumes, and the rise in geopolitical insecurity.

As a traveller-centric system, the KTDI provides authorities and security officials with early, reliable and verified information prior to individuals arriving at the border. In doing so, the KTDI better enables risk-based traveller differentiation and facilitation, providing authorities with potential added time and resources to detect and address risks and threats.

Consequently in January 2018, the Governments of Canada and The Netherlands committed to piloting the concept in collaboration with relevant private sector partners in an international cross-border context, and a pilot group was established to drive these efforts.

What is the World Economic Forum's role?

The World Economic Forum (the "Forum") is an independent international organization committed to improving the state of the world by engaging business, political, academic and other leaders of society to shape global, regional and industry agendas. The Forum convenes these leaders to stimulate a more effective public-private response to a complex global issue through Systems Leadership. This is achieved by cultivating a shared vision for change, empowering widespread innovation and action, and enabling mutual accountability.

Cross-border travel is forecasted to reach 1.8 billion arrivals by 2030, compared with 1.2 billion today. The aviation, travel and tourism sector is under pressure because of the growing number of travellers, increasing risk mitigation and security requirements and infrastructure capacity limits. The Forum's Aviation, Travel and Tourism Industry community recognized the mutual challenges of this anticipated growth and the need for a cross-industry, public-private response.

Over the last decade efforts to reinforce travel security measures have unfortunately had counterproductive outcomes on the customer service experience and have often created bottlenecks at air borders. These unintended consequences produce ripple effects in the industry, often hindering the industry from contributing to job creation and GDP in the positive manner that it usually does.

Today opportunities exist to take advantage of the advances in emerging technologies such as biometrics, distributed ledgers and predictive data analytics to simultaneously advance security capabilities of industry and governmental agencies, while improving passenger facilitation in international travel. The World Economic Forum convenes the relevant leaders and experts to conceptualise and test reform of the cross-border experience.

How does the KTDI work?

The KTDI enables individual travellers to create a digital identity that is authenticated by their national government and meets the necessary standards to be accepted by national governments other than their own. The digital identity is managed by the traveller, through their mobile device, and their personal information is secured both while stored, and while sharing with recipient parties in the end-to-end travel journey. The traveller decides what information to share, when, and with whom they decide, according to the requirements to travel or access services.

Every time the traveller's identity is verified during the journey, an attestation (like a digital travel stamp) is created in the KTDI distributed ledger platform. The more attestations a traveller collects, the more known he or she become, which enables individualized risk-based differentiation in border management and/or aviation security screening.

The KTDI relies on a decentralized platform that enables two key changes that enforce privacy by design:

- Public and private entities can use a shared system without the risks associated with a centralized database, and without having to share information about the traveller on the traveller's behalf
- Personal information stored in the digital identity is authenticated by the issuing government, and the same (components of) information reused for all entities that the traveller shares it with. This provides a single version of the traveller with higher quality and accuracy of data for all entities involved.

Linked with the use of biometrics matching and authentication technologies, the traveller can easily be identified throughout the different process steps at the airport and as such is offered a more seamless experience. Simultaneously the risk-based border management and aviation security operations could allow for known/low-risk passengers to be processed more efficiently, optimizing the overall flow in the airport operations and redirecting focus of officials to higher-risk concerns.

How can the KTDI push us further than existing initiatives?

Several key differentiating factors distinguish the KTDI concept from existing localised passenger facilitation programmes and bilateral trusted traveller programmes. Designed for global scale and impact, it seeks to address the improvement of the entire travel and tourism ecosystem.

1. Adopts a **systems approach** to achieve greater security and greater seamlessness simultaneously
   - The KTDI addresses the most pressing needs of all relevant stakeholders in the end-to-end journey without compromising on outcomes. All partners can derive value from making use of the system.
   - Airlines and airports (and other industry partners) collaborate with government agencies to advance border management and security measures to achieve optimized operations, improved customer experience and reduced costs

2. Promotes **global collaboration between multiple governments** and the broader public and private sector while **maintaining security-related decision sovereignty** for each stakeholder
   - Decisions on border, immigration and national security cannot be aggregated into a common global decision-making framework. The KTDI concept provides verified attestations of a traveller's identity to other parties but does not share their personal information or internal vetting outcomes. Each stakeholder has autonomy over how the KTDI attestations are interpreted and has autonomy over any actions resulting from such interpretations
   - The KTDI allows for verified attestations by non-government parties, enabling verification of particular pieces of information by private sources that is not currently possible. The attestations can be used by stakeholders in their decision-making processes and broadens the scope and number of use cases for the concept

3. Incentivizes **traveller to be an active partner** in security efforts while **retaining control** over what, when and with whom he/she shares their information
   - Promotes privacy of personal information and user-centricity as personal data is stored off-chain and reduces potential impact of data breaches
   - User has greater visibility and confidence about what information they are sharing, with which recipients they are sharing and for what reasons the information is being used

4. Uses a distributed ledger infrastructure to ensure the highest levels of **data accuracy** and to enable public and private parties to confidently rely on a **single version of a traveller's identity** without a central database
   - Reduces replication by various parties of individual traveller's data records, reducing the degradation of data
   - Relying on a single digital source of a traveller's identity for all identity management uses across systems increases data accuracy and the ability to cross-reference with existing records

5. Empowers security agencies to **"have the right information at the right time"** to make the right decisions
   - KTDI enables passengers to initiate the border-crossing process from their couch. They can submit the necessary immigration, customs and security information at the same time as check-in, allowing authorities to process passenger records in advance of arrival at the airport to allow for pre-screening
   - This allows authorities time to expedite the airport process for pre-screened, legitimate, low-risk travellers and focus instead on less-known travellers. Participating travellers experience a faster, less stressful airport experience

6. Trailblazes a future-oriented approach to travel security that harnesses the power of technology
   - Envisioning a preferred future state allows partners to conceptualise innovative approaches that are not designed within the constraints of current-day limits in technology and policy frameworks. As current infrastructure and systems cannot accommodate project growth of international travel, such a future-oriented approach is critical to longer-term sustainability of the industry.
   - Imagines a version of travel security that equals or surpasses the digital transformation of other industries and services, exploring and testing document-less travel and a holistic airport/travel experience that is desirable

Piloting the Known Traveller Digital Identity

Together a consortium of public and private partners will test the KTDI concept in a contained live environment. An iterative, learning approach is adopted to ensure that the concept is regularly improved.

Scope

It is envisioned that the pilot project will include 5000 – 10000 passenger trips facilitated by the KTDI concept. Iterative testing of the pilot will begin during the course of 2019, with the completion of the first end to end trip by end of 2019. The pilot intends to test the 5000-10000 passenger trips during a period of six months in 2020. The operational scope of the pilot project is limited to Air Canada and KLM flights to and from Toronto Pearson and Montreal Trudeau International airports and Amsterdam Airport Schiphol.

The group of travellers identified to participate in the pilot will be included from the following two groups, and by invitation only:

1. Employees of participating partners (government/airlines/hotels/Forum)
2. Loyalty members attracted by targeted communications via the airline partners.

Goals for 2019

By end of 2019, the following deliverables should be met:

1. KTDI enrollment and platform operational for purposes of pilot.
2. Platform interfaces with at minimum one public and one private entity.
3. Passenger can send information in advance to a border management authority for faster processing upon arrival
4. Set number (TBD) of travellers can move through the MVP components (end to end) without use of a physical passport

Minimum Viable Product 2019

Given there are many dependencies for delivery of this multi-party pilot, a flexible and iterative approach to implementation is required. A MVP will leverage ongoing programmes and prioritise technological developments/focus by the Pilot Group.

To achieve the above goals, a MVP would see Dutch and Canadian Nationals enroll in the KTDI and travel between countries using biometric boarding, RTP-NL enrolment, lounge access, and seamless flow and e-gates on arrival in Netherlands, all without showing their passport but rather making use of their biometrics.

Potential additions for 2019

This could include adding in any of the following elements:

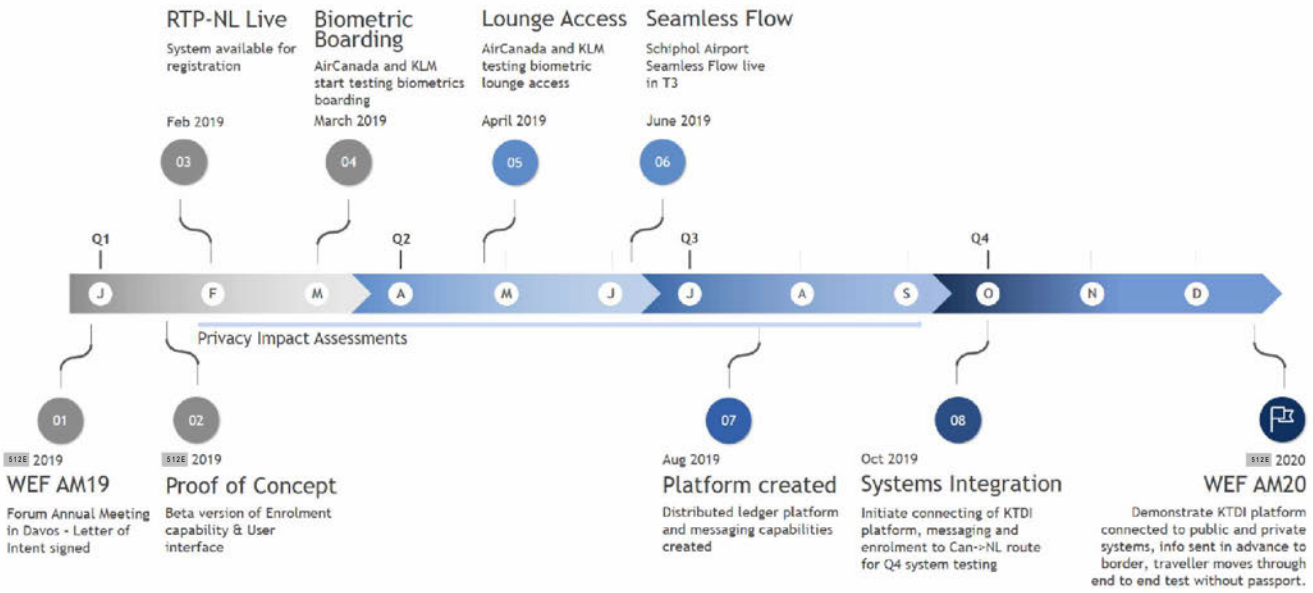
- Add in a hotel partner node, whereby the KTDI can be used by travellers in the hotel, and the hotel can add an attestation to the traveller's identity wallet.
- Priority access to security screening via biometrics matching
- Airline check-in and addition of attestation to the traveller's identity wallet

Who is involved? Key Stakeholders in the Pilot

- World Economic Forum
- Government of Canada
- Kingdom of the Netherlands
- Accenture
- Air Canada
- KLM royal Dutch Airlines
- Amsterdam Airport Schiphol
- Toronto Pearson International Airport
- Montréal Trudeau International Airport
- Potential collaborators: Marriott Hotel

Proposed Timelines

Testing the KTDI relies on the build of pilot specific technology and the implementation of existing initiatives. The timeline is illustrative of when existing initiatives may go live, guiding the ability to connect the KTDI. During Q4 2019 partners will aim to begin connecting the KTDI pilot technology with private and public-sector systems like biometric boarding and RTP-NL. During Q1-3 partners will need to undertake privacy impact assessments.



Progress made since January 2018

Since January 2018 the National Governments brought together their industry partners to build a Pilot Project Group that would champion the testing of the KTDI concept. National kick-off meetings and a full Pilot Project kick-off meeting were held in summer 2018.

A charter for project governance has been created to guide collaboration between the bi-national public and private partners and sets out the responsibilities for several working groups to ensure delivery of the pilot.

The Technology working group has delivered the following:

- The functional requirements for the pilot including all necessary process steps for the end-to-end route.
- Process and information flows for journeys in both directions of the route, including where attestations should be made to the distributed ledger and where the platform and digital identity needs to interface with existing software systems.
- Draft technical requirements for the platform to enable the interoperability and an initial project start architecture
- Technical requirements and standards for enrolment to ensure acceptability (security/privacy etc.) of the digital identities
- High level milestone planning for the delivery of the technical components during 2019

Proof of Concept January 2019

- By the Forum's Annual Meeting 2019, project partners will have developed the initial digital identity enrolment capability that would be used to enroll travellers for the pilot, and have their digital identity authenticated and "attested to" by their national government. This technology will be showcased at the meeting in Davos.
- Official branding and communications for the pilot "launching partners" will be designed for sharing with media in January 2019.
- It is intended that the Project Champion Ministers sign a letter of intent to confirm their cooperation and collaboration with their industry partners in the KTDI Pilot.