

# BORDER MANAGEMENT TODAY

Issue 008 | August 2022

## IBMATA COMES HOME!

LONDON 2022

### SOUTH AFRICA BORDERS

What Next?

### A TECH-ENABLED FUTURE FOR KINGDOM OF SAUDI ARABIA'S LAND PORTS



### ADVANCED AIR MOBILITY (AAM)

Securing The Journey

### ON THE ROAD AGAIN:

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# Message from the Chairman

**W**elcome to edition 8 of “Border Management Today”, the official magazine of the International Border Management and Technologies Association (IBMATA).

Our main feature in this edition covers a report on our IBMATA (Europe) Summit, which took place in London on 12 – 13 July 2022. This is the first time that we have held an event in our country of birth, where we established the Association in 2017 as a small non-profit UK based entity promoting co-operation and collaboration between border practitioners from the private and public sector, at home and abroad.

It is a mark of our progress that we have now established a global organisation which enjoys considerable respect from border agencies around the world, as well as recruiting members with world-leading solutions to support them in an ever changing and complex environment. We are grateful to the UK Government and especially the Border Vision Advisory Group at the UK Home Office and the Border Innovation Hub at the UK cabinet office for their ongoing support to our mission. The UK Border Strategy recognises the need for the private sector to come together to establish the future UK border which will be driven by innovation and technology. We have been working closely with the Home Office and Cabinet Office to ensure that they have the necessary platforms to communicate and work with the private sector in delivering this mission. As such, we

were delighted to welcome keynote speakers including Kevin Foster MP (Minister for Safe and Legal Migration) and Jacob Rees-Mogg (Minister for Brexit Opportunities and Government Efficiency of the United Kingdom) who were kind enough to give up their valuable time to come and see our exhibitors and set out their vision for the future of the UK Border. We would also like to congratulate all our IBMATA members who were selected for the Border Vision Advisory Group and the Eco System of Trust trials, and we look forward to reporting on developments in UK Border Transformation in future editions.

Many of the articles in this edition illustrate the point that we have been making for some time – there is already proven world class technology out there which is ready and able to support the UK government (and other governments for that matter) to deliver digital solutions to many aspects of border control. As the UK accelerates towards delivery of the Border 2025 strategy, we will continue to do all we can to ensure that they are fully sighted on new and emerging solutions that can help them to achieve it.

Of course, the UK is not alone in delivering new and innovative solutions to border management. We are delighted to include an article from Dr Masiapoto from the Border Management Authority in South Africa on his vision for Integrated Border Management there; and we will

shortly be taking the IBMATA family to Singapore for our IBMATA (Asia) summit to keep abreast of new developments in ASEAN and Australasia. We also include articles here on exciting new plans for Advanced Air Mobility (AAM) and new challenges posed to Border Agencies by vertical take-off aircraft; as well as innovative solutions for managing land borders in Saudi Arabia.

Having listened to our members we have arranged for our first event of 2023 to be held in San Diego, USA. This will be our first foray Stateside, and we are grateful to our friends and colleagues at US Customs and Border Protection for hosting us there – and giving us the opportunity to visit one of the busiest land border crossing points in the world. With events to follow in South Africa and Dubai later next year, IBMATA is well and truly back on the road after our visit home. I do hope you will be able to join us our fascinating journey across the world, in search of the future border.

*Tony Smith*

**Tony Smith CBE,**

CHAIRPERSON *at* INTERNATIONAL BORDER  
MANAGEMENT AND TECHNOLOGIES ASSOCIATION

# Event Report

## IBMATA CAME HOME!

The IBMATA (Europe) Summit came home to London for the first time in July 2022, to a huge welcome from the British Government. Here are a few of the highlights, for those who missed it!



## EVENT REPORT

On 11 July 2022, IBMATA hosted a workshop on exploring the design of the future maritime port, together with the UK Home Office Border Vision Advisory Group and the UK cabinet office “Eco System of Trust” Team.

The Home Office had this to say:

*“The Home Office, Future Border and Immigration System- Border Vision team in conjunction with Cabinet Office Eco System of Trust hosted the IBMATA pre-conference workshop on Monday 11 July, which was attended by 77 delegates*

*from international governments, technology providers, academics, port operators and those who use them, IBMATA communities and other international partners.*

*The purpose of the workshop was to explore how to assure passenger identity within the maritime, rail and road environment, where persons can present to borders in vehicles and discuss how governments and industry can overcome the challenges and barriers that these scenarios pose.*

*The key themes of binding vehicle occupants to an identity; infrastructure and environment of ports; access to data; alignment of international standards; were identified as the main challenges to overcome for any border that processes persons in vehicles and should be the focus of any border transformation*

*This workshop provided insight for delegates to explore for their own borders, ports and technology solutions.”*



## EVENT REPORT

The Conference began on 12 July with an opening keynote address by Kevin Foster MP, Minister for Safe and Legal Migration. The Minister spent some time visiting stands in our exhibition area and was impressed by the range and quality of border management and technological capability on display.

During his speech the Minister set out the UK government's approach to safe and legal migration including details of how the UK Border will become slicker and more efficient, with an increased use of automation and a bold ambition for British citizens



and trusted overseas partners to be able to use a contactless travel system on arrival.

He also announced the UK's flagship permission to travel scheme which will make it easier for genuine people to come to and contribute to the UK, but harder for those the UK wants to exclude. Electronic Travel Authorisations will enable the government to identify problems upstream by providing more information about those wishing to come, leading to better informed risk assessment.

Following the Minister's speech Jon Payne from Entrust introduced a panel comprising of Simon Bond (Home Office Director of Transformation for Migration and Borders), David Barofka (Regional Director for UK Border Force at Heathrow), and Gareth Williams (Director of Regulatory Affairs at Eurostar) to discuss how the Ministers plan can be put into practice at the UK border, and how the Home Office might engage with industry to deliver it.



## EVENT REPORT

Following sponsor presentations from Amy Rail from Pangiam and Dave Harmon from Gatekeeper about how lessons can be learned from technology solutions deployed in North America,

IBMATA Chairman Tony Smith hosted a panel comprising of Clarence Yeo (DHA Singapore), Jeff Lennon (VP of strategic partnerships and global sales at Vision Box) and Steve Armitage (Head of

Technology Design and Innovation at Heathrow Airport) to discuss the “end to end” traveller journey and best practice in modern day passenger clearance systems.



The conference would not be complete without a discussion about crisis management at borders, and how to cope with ever increasing pressure and uncertainty. This had become very relevant at the UK Border in recent years dealing with changes required by Brexit, the COVID pandemic, and large-scale irregular migration across the English Channel. Our chairman hosted a panel comprising of James Clarke, Director of Business Planning and Design at UK Home Office, Iliuta Cumpanasu, Deputy Head of Integrated Border Management in the Romanian Border Police, and Brendan Swarbrick, Executive Client Director at Sopra Steria.



The afternoon sessions began with a return to the familiar theme of EU Smart Borders. With the EU Entry / Exit System (EES) and Electronic Travel and Information System (ETIAS) just around the corner, how are Member States preparing to implement this? Guido Brockman, Head of Product Management at EU-LISA, gave us his latest insights.



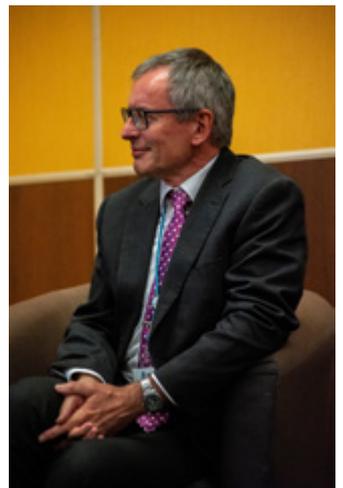
A sponsor presentation by John Drever from Atkins gave us a fascinating insight into the development of electrical vertical take-off and landing (EVTOL) aircraft and their potential impact on borders, which was followed by a sponsor presentation by Tom Staley and Ben Brown from Sopra Steria describing the value of data to achieve future border transformation.



This led nicely into an excellent presentation by Captain Marcel Veul, Head, Targeting Center Borders, National Tactical Command, Royal Netherlands Marechaussee on the very latest developments in the Dutch border targeting system; and another from Melissa Odegaard, Director Marketing, S2 Global on the value of data sharing across borders.



The targeting theme continued with a panel discussion on the importance of data for effective targeting, moderated by Andy Smith, Director, Government and Industry Relations, SITA and comprising of Simon Watkin, Head of Border Data Policy, Border Security and Identity Unit, UK Home Office; Darren Hart, Deputy Director, Data and Detection Systems Strategy, UK Border Force; Captain Marcel Veul, Head, Targeting Center Borders, National Tactical Command, Royal Netherlands Marechaussee; and Cor de Jong, Vice Chair, ICAO PKD.



Day One concluded with excellent presentations from Donato Colucci, Head, Border and Identity Solutions (BIS) Unit, International Organisation for Migration (IOM) on the challenges of mass migration across Europe; and current processing systems for asylum seekers in the EU by Istvan Ordog, Senior Asylum Processes Officer, European Union Agency for Asylum (EUAA).



# EVENT REPORT

On Day Two we were delighted to welcome the Rt Hon Jacob Rees-Mogg MP, Minister for Brexit Opportunities and Government Efficiency of the United Kingdom. The Minister toured the exhibition hall to speak to sponsors before delivering his keynote speech to plenary.



## EVENT REPORT

Speaking exclusively to IBMATA, Minister Rees-Mogg expressed his enthusiasm over the pilots that have been selected to test the UK Ecosystem of Trust border model. Six consortia were successful in their bids; the pilots are led by Azarc, Chainvine, IBM & Maersk, Fujitsu, Palantir and the Institute of Export & International Trade.

Minister Rees-Mogg expressed his gratitude to the businesses who are leading each of the pilots and thanked them for their time, commitment and expertise and looked forward to seeing the results.

The Ecosystem of Trust pilots will run until the end of the year to establish how they can be scaled to a new border model which will increase the efficiency, speed and (crucially) the safety of UK trade borders.



The Minister's speech was followed by an opening address from Dean Statton from UK HM Revenue and Customs (HMRC) discussing the management of Customs in a digital world.

We were then joined by our Advisory Board Chairman Lars Karlsson, who hosted a panel comprising of Oliver St John (Deputy Director, Border Strategy, Governance and Innovation, Cabinet Office, UK); Max Hacon ( Programme Director, HMRC) and Frank Heijmann (Head of Trade Relations, Dutch Customs) to discuss Customs Facilitation including Single Trade Window and Trusted Trader systems.



## EVENT REPORT

Following further sponsor presentations by Dubai Ports World (Mahmood Al-Bastaki and Matthew Harding) and Gatekeeper Solutions (Dave Harmon), Shenali Jashani (Senior Business Consultant, Customs and International Trade, Fujitsu) hosted an interesting panel discussion on trusted society comprising of Shanker Singham, CEO, Competere; Mark Johnson, National Customs and Trade Control Director, Kuehne + Nagel; Kevin Shakespeare, Director of Strategic Projects and International Development, Institute of Export and International Trade; and Kevin Franklin, Senior Customs Consultant, Fortinus Global.



After lunch we moved away from Customs and back to the challenges facing the EU Member States at the external EU Border including the impact of the recent invasion of Ukraine by Russia, as well as the ongoing issues of irregular migration and human smuggling.

We were pleased to welcome to London Egert Belitšev, Deputy Director General for Border Management, Estonian Police and Border Guard Board, Iliuta Cumanasu, Deputy Head for the Implementation of the Integrated Border Management Strategies, Border Police, Romania and Samedin Mehmeti, General Director, Kosovo Police Force & Colonel Ragip Bunjaku, Director, Kosovo Border Police for these excellent and informative presentations.



## EVENT REPORT

Last (but by no means least) our conference concluded with a discussion about another recent UK government post Brexit initiative – Freeports. Shanker Singham hosted an excellent panel on latest developments on freeports in the UK comprising of Richard Ballantyne (Chief Executive, British Ports Association); Nolan Gray (Director, Tees Valley Combined Authority); Kevin Shakespeare (Institute of Exports); and Oliver Haydon (Deputy Director for Customs Policy, HM Treasury).

The IBMATA family is grateful to all our speakers, sponsors and delegates for supporting us on our homecoming – and we hope to see you all again soon at our upcoming events around the world.





**IBMATA**  
INTERNATIONAL BORDER MANAGEMENT  
AND TECHNOLOGIES ASSOCIATION

# **BORDER MANAGEMENT & TECHNOLOGIES SUMMIT**

**ASIA 2022**

**Singapore  
20-22 September 2022**

**WWW.IBMATA.ORG**



Asif Javaid  
Project Manager at Zakat,  
Tax and Customs Authority,  
Saudi Arabia

# A tech-enabled future for Kingdom of Saudi Arabia’s land ports

On 8 November 2021, an expert group comprising of public and private sector experts came together at the IBMATA (Europe) Summit in Brussels to answer a series of questions about the “drive through border”.

A modern trade border is critical for this vision. Diversifying the economy requires businesses to be able to import and export at speed and with low friction. To meet this, the Kingdom has set its ambition to become a global logistics hub by facilitating trade while protecting national security.

The government organisation responsible for modernising the trade border is ZATCA, “Zakat, Tax and Customs Authority”. This was formed in 2021 from merging legacy organisations into one Authority responsible for collecting Zakat (a form of religious almsgiving), taxes and customs duties, achieving high levels of compliance and providing quality services.

ZATCA is responsible of organizing and managing all activities related to customs operations and the ports. The Authority currently operates sea ports, airports, 14 land ports and 1 dry port, a rail terminal in Riyadh connected to the Sea Port of Eastern Province in Dammam.

ZATCA set an aspiration to build world-leading land ports. Commercial traffic will experience a 2-hour end-to-end clearance time, greatly reduced from today. Government will see its policies applied consistently and efficiently at the land port, reducing the overall cost to serve.



Delivering this required a complete reworking of how the operations at a land port are delivered, and a leapfrog in the use of digital technologies and Internet-of-Things (IOT) devices at the land port.

## APPLYING SERVICE DESIGN TO COMPLEX LAND PORT OPERATIONS

Operating the trade border in the Kingdom of Saudi Arabia presents unique challenges. There are large differences across its land ports.

Some land ports are in remote locations, such as the Empty Quarter, with challenges for logistics and resourcing. Some have limited physical space available, such as the King Fahd Causeway which has its border on an artificial island linking to the Kingdom to Bahrain. All of the land ports must be kept operational while making improvements.



Facing these challenges, the Smart Land Ports (SLP) team took inspiration from successful IOT projects they had led earlier in their careers. Anwar Omair, General Manager Smart Facilities Technologies, had led projects that modernised operations through technology at previous organisations. These projects applied service design thinking to work through problems that had traditionally been designed from the perspective of a single skill set. Under the service design approach, a multi-disciplinary team analysed the processes from the user back to the supporting actions of the employees. They then applied a mix of policy design, process re-engineering and use of technology to modernise the operations.

The SLP team brought together leads from Engineering, Operations, Trade Facilitation and Security to design the future land ports. This multi-disciplinary approach was essential to ensure all of the different elements of change, such as the engineering works to change the port layout and the new agent hiring and training courses, would come together successfully.

First the flow of the land ports were mapped out to identify pain points for the trader and for the agents. Pain points were

defined as anything that affected time to flow through the port, security effectiveness or confidence in revenue collection.



These pain points fell into two categories. There were many inconveniences for the traders and agents, such as having to use slow paper-based processes or having to wait with no clear information available as to how long the wait will be. There were also critical issues, such as the potential for a haulier being forced to wait at the port for more than a week if certain checks were required that could not be performed at the port.

All aspects of the customs and trader experience were tested to ensure the next generation of land ports is appropriate for the Kingdom.

*'A significant change was to bring a risk-based approach to inspecting hauliers. This meant we reduced the percentage of hauliers that go to a secondary (intrusive) inspection. This has a huge impact on the overall flow at the land port. It needs careful use of technology to make it right.'*

## TECHNOLOGIES TO SUPPORT NEW TRADER JOURNEYS AND AGENT PROCESSES

The design worked around five services supported by their own technology systems.



*Traffic Management* looks at the physical flow of the trader through the port. Improvements include ANPR cameras working with smart gates and digital signs to guide hauliers through the port. These will make routing decisions on individual trucks and will stop any parts of the land port getting blocked by excess traffic

*X-ray Image Centralisation* looks at how the data can be gathered to first decide what level of inspection a haulier requires, and then what technologies can achieve that inspection in the fastest and most

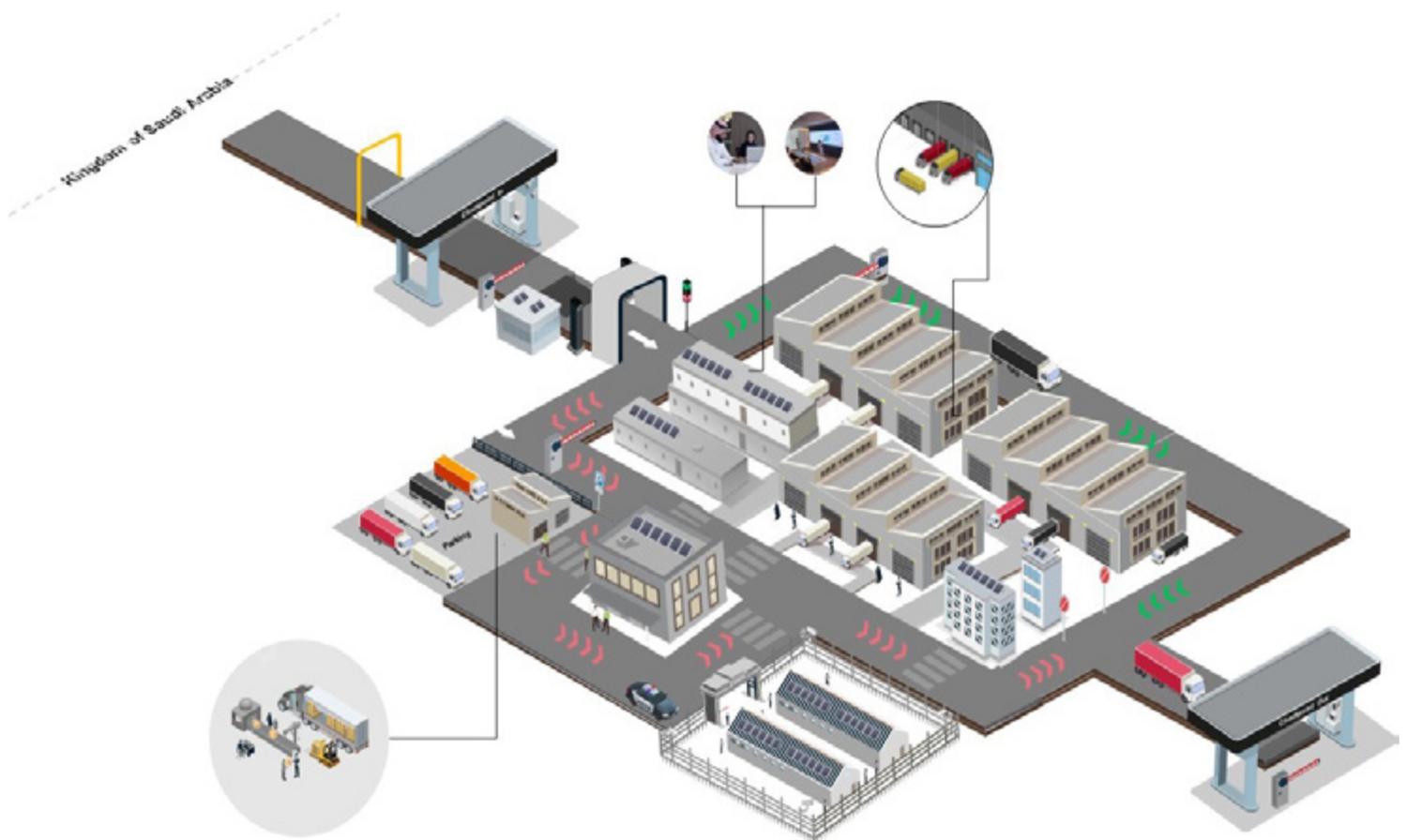
effective way. Data will be collected pre-arrival where possible to enable the best risk decision to be made quickly for each individual haulier. Agents across the land port will receive all information digitally to give them full background on every vehicle they are inspecting. This will allow more targeting inspections.

*Integrated Building Management* monitors that status of the buildings and equipments. This will implement basic efficiency measures such as turning off air-conditioning where not required. It will also

allow preventative maintenance of equipments.

*Security and Surveillance* protects the port perimeter and the security of activities within the port. The security requirements at the ports across the Kingdom varies. The technology is designed to support agents with better information on incidents.

*Confiscated Goods Management* ensures there is secure storage and fully traceable logging of goods taken from traders. Goods or pallets moved without authorisation will trigger alerts for action.



## FIVE SERVICES WORKING AS 'ONE PORT' WITH A NEW IOT ARCHITECTURE

The SLP team designed the five services to be 'one port' so that data flows across the services. The team design a 'Core IOT Platform'

that sits under the five services and orchestrates all data exchanges.

This approach brings efficiency to the design by maximising reuse and sharing of IT hardware and architectural components across the services. It also enables advanced use cases to be built in the future.

*'With this architecture we can take vehicle registration data from the traffic management system and start running the checks and risk assessment on the haulier as soon as they arrive at the land port. This gives the customs agents the data they need, and the haulier the fastest clearance time possible.'*

This architecture reduces the technology that needs to be deployed at the port to the minimum to meet resiliency and backup requirements. Expansion to further ports will be rapid.

The SLP team iterated these tech systems with the future trader journey and future agent processes to ensure they were achieving maximum benefits for all stakeholders. It was important to achieve full support from all. In particular, the engineering works had the longest lead time and so the most urgent alignment was to get the layout agreed soonest.

This approach is being piloted at Al Batha land port. Traders will start seeing benefits in late 2022. The first visible change will be a transformation of how hauliers move around the land port. Guidance will be made clear and can be specific to the individual truck. The technology will mean hauliers do not need to think about where to go, and any hauliers requiring special attention are diverted off the main flow early. This prevents blockages or situations where a haulier has to double back on itself, creating temporary disruption to the flow that adds up to delays at the port for all.

Soon after, hauliers will find it quicker to go through inspections. All will go through a rapid primary inspection. A smaller number will go to a secondary inspection where agents will have data available to pinpoint any risks on the vehicle, speeding up the process.

## **A NEW WAY OF WORKING WITH VENDORS**

The technology designs went to market as six packages, with one vendor responsible for full implementation of a system.

These packages were designed for ease of integration across different vendors. The SLP team came up with an RFP approach that gave vendors clear guidance on how their system fits into the wider architecture, and specifically what they were responsible for delivering versus where ZATCA would take responsibility for coordinating across vendors. The RFPs defined the set of use cases that each system would implement and how these fit with the wider port operations.

This approach balanced giving enough detail and specificity to ensure all of the systems would work together, while maximising the opportunity for individual vendors to innovate and achieve their use cases in the best possible way.

## **A TECH-ENABLED FUTURE**

The current changes at Al Batha are just the beginning. The full set of improvements will be implemented over the next 2-3 years delivering a land port that will be unrecognisable to current users.

In parallel, the SLP concept is being applied to other land ports around the Kingdom. The technology design means that use cases and technologies that are proven at one port can be

quickly scaled across the country. Software changes can be applied remotely in an instant.

This approach empowers the customs agents. With land ports following the same processes, agents will find new and better ways of fulfilling their duties. These process improvements can be rapidly scaled, delivering continuous improvement at national level.

The Smart Land Ports concept is an exciting concept that is taking shape and making a technologically advanced contribution to the economic prosperity of the Kingdom.

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Asif Javaid studied electrical engineering at the University of Engineering and Technology Lahore . He worked as substation automation engineer for Siemens in Pakistan before moving to the Kingdom of Saudi Arabia. He took up lead substation automation engineer role at Siemens KSA . He was working as Group Manager in Schweitzer Engineering Laboratories delivering automation projects before joining ZATCA in 2020. Today, he is a projects manager leading technology modernisation of the ports under the leadership of Anwar A. Omair (General Manager of Smart Facilities Technologies department), a pioneer Smart Port Solutions, IOT , AI and a renowned leader.

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**John Drever**  
Technical Director for  
future borders in Atkins

# Advanced Air Mobility (AAM) – securing the journey

**A** whole new transport system is evolving before our eyes: Advanced Air Mobility (AAM), with its innovative, sustainable aircraft; and its goals of speeding up the movement of people and goods, challenging conventional logistics models; easing urban congestion and improving regional connectivity is revolutionising the future of flight.

Securing a newly created AAM network will require that passenger security, border security, and vertiport security are assured – and that cyber security runs through every minute customer and operational transaction. This new, unique operating environment will require unique security controls. How will the aerospace industry meet this challenge, designing the entire ecosystem to achieve security and safety, while realising a great passenger experience – and all within a scalable business model?

As a sector, we must start to regard AAM as becoming a part of the critical national infrastructure – it must be operationally resilient end-to-end and made secure by design from the outset.

AAM is new and evolving. Understanding all its securing requirements is imperative: physical systems, infrastructure, the flight itself, the terminal, plus systems availability, safety aspects, keeping flights safe and without interruption, as well as baggage control systems, heating, ventilation, flight alarms – everything.

The aviation industry has been working towards a seamless passenger journey for some time, and whilst there are still several unknowns surrounding the vertiport passenger journey, the similarities between airports and vertiports mean it makes sense to use the former as a starting point.

We have begun to map out a security route, developing new innovations in the security space under the umbrella of the Future Flight Challenge and the Civil Aviation Authority (CAA) regulatory sandbox – this is especially required with the changing security regime prompted by the Future Borders 2025 strategy.

We also need to maintain the “test, analyse, learn” capability – to reach a set of regulations commensurate with the risk profile that’s agreed with AAM’s

many stakeholders – including the International Civil Aviation Organisation (ICAO), CAA, Department for Transport (DfT) and Border Force. This will help provide a great passenger experience, and confidence, and will underpin scalability for the future.

One of the primary benefits of AAM will be its significant reduction in passenger travel time. Therefore, passing through security in a vertiport must be a fraction of the overall travel time, and must be quick, efficient, and safe. This can be achieved by implementing the appropriate processes and technology to enable a seamless passenger journey: non-intrusive, paperless or ticketless, and with no duplication of security checks.

Security includes, of course, data security, and a seamless passenger journey will necessitate a seamless exchange of data. Much of this technology and these control mechanisms already exist within the aerospace sector, so we have a good head start.

We also need to understand that the security regime must be scaled later; to do this we must understand

## ADVANCED AIR MOBILITY (AAM) – SECURING THE JOURNEY

the implications for simple and more complex journeys, and ensure the right regulation is developed. High levels of aviation security are present for good reasons: we have seen tougher security introduced since 1988 and the PAN-AM flight over Lockerbie, and after 9/11, such as the introduction of body scanners and the locking-down of the cockpit. For passengers, these measures have become the norm, but we need to start the thought processes now of how AAM could counter potentially dangerous incidents.

The appropriate level of security for this new market is likely to be neither

high or low, but a third way that ensures sufficient security checks and transactions are taking place while maintaining a relatively seamless journey. The best approach will be risk-based, understanding the threat and its likely impact. Once we understand this, we can design the controls needed to mitigate the risks.

Then we must ask more: how could biometrics enable this? And what about the scalability of people-based processes, surveillance and CCTV, radio frequency interference, lighting, and navigation aids, plus access control to eVTOLs, landside and airside, and the

security of personnel – in terms of staff training, security vetting, identity cards and access control, and 24/7 vertiport security?

We must also consider travel to and from vertiports – which will be shaped by use cases we need to start focusing on. An elite service, for example, may be by private executive car. For most regular travellers it would be by public transport. But in both cases, the journey would be booked on a single ticket where check-in starts on your device rather than at the vertiport.

We should look at the scope and design of security here too, so it can



scale from the initial use cases of short intra-city, regional, and inter-city flights to eventual international flights.

This raises a further important point about first- and last-mile connectivity: how could Regional Air Mobility (RAM) be as well-supported by security and offer as seamless a passenger journey as AAM? If we are looking to upgrade the UK's existing flight infrastructure, or even bring disused airfields into service for RAM, how can the same seamlessness happen when passengers are travelling to and from, for example, a disused rural airfield in Northumberland, Gloucestershire, or Suffolk?

And how could we reconcile the many passengers needing to use private cars, and park them in car parks to get there and reach the check-in desk, when we're aiming for mass low carbon transport options? We must look to integrating this whole new transportation system into those we already have, to truly add benefit to the passenger experience.

With AAM comes many challenges, and security is one of the biggest – but there are also many opportunities for security innovation in this emerging market. Building on our aerospace pedigree we should now be courageous and start pushing for the UK to lead the

way, and benefit from the head start we've taken in this exciting new market.

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John Drever is Technical Director for future borders in Atkins. He has a multidisciplinary background in consultancy, project management, enterprise architecture and innovation for mission critical systems. In his 30 year career he has focussed on complex projects ranging from border systems to military planning and intelligence and fighter aircraft.

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Dr Mike Dr Masiapato,  
Commissioner & CEO,  
Border Management Authority



# Historical context of multi-agency approach for border management

Since 1994, South Africa deployed a multi-agency approach in its border management system. As a result, the country ended up with six government departments and one public entity operating in the border environment and those are; the Department of Home Affairs (DHA), National Department of Health (NDH), Department of Forestry, Fisheries and the Environment (DFFE), the Department of Agriculture, Land Reform and Rural Development (DALRRD), the South Africa Police Services (SAPS), the South African National Defense Force (SANDF) and the South Africa Revenue Services (SARS).

In doing their work, these seven organs of state reported to their respective Head Offices while implementing their individual legislative mandates. This approach resulted in the fragmentation of

the country's border management activities. It was for this reason that South Africa tried about five coordination iterations in order to bring synergy into the work of the six structures at the borders. In 1996, the Border Affairs Coordinating Committee (BACC) was introduced and implemented, but failed to bring cohesion amongst the structures. As a result, the National Inter-Departmental Structure on Border Control (NIDS) then came into being in 1997 and operated until 2001, after which, the Border Control Operational Coordinating Committee (BCOCC) was later introduced to facilitate the legitimate movement of goods and services. However, the BCOCC iteration emphasized the facilitation of the movement of goods and services and thus neglected the movement of persons.

Therefore, with the 2010 FIFA Soccer World Cup on the way, the country moved to create an Inter-Agency Clearing Forum (IACF) in order to facilitate the legitimate movement of persons at our border environment. Unfortunately, the establishment of the IACF brought more emphasis on the movement of persons and thus neglected the movement of good and services. It was for this reason that the National Border Management Coordinating Committee (NBMCC) was then established in 2013 and still remain functional to date. Considering all these coordination iterations over the years, it became clear that the application of a multi-agency approach in border management breeds fragmentation, generates silo mentalities and facilitates high levels of corruption in the country's border environment. It was for these reasons

that the discussions ensued in the country on the need for moving away from a multi-agency approach into an integrated border management platform with a single command and control. Overall, the discussions took about 15 years and resulted in the enactment of the Border Management Authority Act, 2 of 2020 in July by His Excellency President Cyril Ramaphosa.

### **CAPACITATION OF THE INTEGRATED BORDER MANAGEMENT AUTHORITY (BMA)**

The enactment of the Border Management Authority Act enabled the President to appoint the Commissioner and two deputy Commissioners, one for Operations and the other for Corporate Services in November and December 2021 respectively. Since then, the BMA leadership remain hard at work to establish the Border Management Authority as a Schedule A (3) Public Entity. In order to achieve this objective, the BMA leadership developed and got approval for its transitional organizational structure for incubation under the Department of Home Affairs as special Branch from the 1st of April 2022 to the 31st of March 2023. As such, a special funding was received from National Treasury for financing the capacitation of the Authority with key portfolios such as human resources, financial, risk and broader corporate support of which the process is underway. Further, the financing enabled the advertising, recruitment and the deployment of the first 200 cohort of the Border Guards on 14 July 2022. In addition, the appointment of critical oversight committees such those for risk, audit and remuneration would be finalized in the third quarter of the current 2022/2023 financial year.

### **INTEGRATION OF THE EXISTING STAFF MEMBERS INTO THE BMA**

Additional to the recruitment

processes, the BMA would also be capacitated by the existing staff compliment operating at the border environment through the integration process. Such integration is guided by the provisions of section 97 of the RSA Constitution of 1996 which empowers the President to transfer functions from one Cabinet minister to the other after the concurrence is received from the originating minister. In this case, the concurrence letters have been received from the Ministers of Agriculture, the Environment, and Health authorizing the transfer of functions from their respective departments to the Minister of Home Affairs. However, the concurrence letter from the Minister of Police is still being awaited. As for immigration functions, the Minister of Home Affairs has already delegated the functions from the department to the BMA as the proclamation issue does not apply because the portfolio is held by the same person. At this point, the identified sections of the respective pieces of legislation has been presented to the Office of the Chief State Law Advisors for the final legal concurrence before the President issues the final proclamation. Once issued, all functions from the respective organs of state operating at the border environment would be transferred from the mother departments to the BMA. Whilst BMA assumes the operational responsibilities at the ports of entry and the border law enforcement area, the mother departments maintain their policy and legislative responsibilities over the functions. In fact, the transfer of functions from the mother departments to the BMA will be followed by the transfer of staff compliments, their relevant budgets and the tools of trade. To this end, an integrated change management programme has been developed to engage with staff and facilitate the transition with the close participation of labour in the process.

Additional to the integration process, the BMA Act requires the Authority to

sign implementation protocols with the SARS, SANDF and SAPS. At this point, the protocol between BMA and SARS was signed in November 2021, the one with SANDF was signed in May 2022, and the one with SAPS was signed in June 2022. Whilst the BMA officials remain the exclusive border law enforcers, the implementation protocols define the working modalities between the BMA and the SAPS, SANDF and SARS. In fact, the Border Guards would be statically deployed at the vulnerable segments of the borderline, including the informal community crossing points whilst the SANDF remains responsible for border protection and safeguarding. Whilst the Border Guards would be conducting border law enforcement functions, including access control, they would interface with the nearest police station should a crime incident happen in the port of entry.

In the end we remain hopeful that the BMA approach is eventually the right one and will succeed in ensuring an effective and efficient integrated border management system in South Africa.

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**IBMATA**  
INTERNATIONAL BORDER MANAGEMENT  
AND TECHNOLOGIES ASSOCIATION

# BORDER MANAGEMENT & TECHNOLOGIES SUMMIT

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# Tackling Irregular Migration, helped through Digital Transformation

**I**rregular Migration, the movement of people outside the regulatory norms of formal border entry processes, is a key focus area for the UK's Home Office, particularly in light of the increase in small boat arrivals in recent years. The Asylum system costs the UK taxpayer over £1 billion (FY '20-'21) (Home Office, 2022), the highest amount in over two decades, with almost £5m a day to house asylum seekers in suitable accommodation, with an average wait time of 449 days to process an asylum claim <sup>1</sup>(Campbell, 2022).

Significant work has been done in transforming Immigration caseworking from its legacy IT platforms to the next-generation ATLAS Caseworking system over the last few years. The transformational objective is to build a resilient immigration platform that provides the capability to process applications far more efficiently throughout their end-to-end journey. It is now necessary to enable an overall reliable "person-centric" view and

seamless handovers to other parts of the immigration operations. Most importantly, it is a digital caseworking journey that does not require paper files and uses technology to realise the end-to-end integration of vital data and automation of tasks wherever possible.

The transformation of the caseworking system and migration of the legacy platform significantly improve the end-to-end workflow of the UK's Asylum system by digitising the application forms, introducing automation to improve accuracy whilst reducing manual errors and expediting the resolution of the Asylum case backlog.

This article highlights some of the critical areas that Mastek focused on during the transformation journey and our approach to delivering business outcomes for the department.

Mastek (hereafter referred to as the Transformation team) supports the Home Office's journey to digitally transform the Caseworking system

and how Asylum and other irregular migration products are designed and managed. We are building efficiency in the business by streamlining Asylum processes, integrating Asylum workflows and aggregating capability from disjointed systems into one integrated system, ensuring enhanced user experience.

Managing Asylum applications, including providing accommodation and payment support, covers some of the most operationally and legally complex and sensitive policies of the Home Office. The government and the department adhere to the international obligations to Asylum seekers and recognise refugees under the UNHCR's 1951 convention and 1967 protocol. <sup>2</sup>(UNHCR, n.d.)

Our work in transforming Irregular Migration products is helping the Home Office transform services for various front-line business units such as UK Visas and Immigration, Asylum and Complex Human Rights Caseworking

<sup>1</sup> Campbell, C., 2022. BBC NEWS. [Online] Available at: <https://www.bbc.co.uk/news/uk-england-sussex-62266259>

<sup>2</sup> UNHCR, n.d. The 1951 Refugee Convention. [Online] Available at: <https://www.unhcr.org/uk/1951-refugee-convention.html>

## TACKLING IRREGULAR MIGRATION

and Immigration Enforcement.

Working in collaboration with the Home Office, we applied the following approaches to transform the Irregular Migration products and usage by the Home Office users:

- 1. Digitisation of the workflows**  
– The complex workflows experienced across the systems, involved many paper-based forms that get completed during the Asylum seekers' journey through the application process. Such paper-based forms required

significant manual intervention and inevitably introduced delays in case processing time. As a first step in the transformation journey, we identified the paper forms used in the end-to-end workflows and digitised them. As part of the digitisation, we also transformed these forms to capture structured data, enabling improved processing time and resulting in operational efficiencies and future analytics on such data

- 2. Driving automation at every opportunity** – While building and transforming capabilities, we reviewed the existing business processes to identify automation opportunities. Irregular Migration operates in a dynamic environment catering to diverse stakeholder communities and managing their priorities. There is an inherent need to deliver capabilities on time with great accuracy. In such situations, increasing automation in every



instance possible helps expedite the turnaround time to deliver such capabilities

One such example was the usage of Robotic Process Automation (RPA) tools to automate when there was a need to reconcile an extensive data set in a short time. During the supplier transition of the accommodations and

payments provider for Asylum seekers, there was an urgent need to reconcile tens of thousands of records, ensuring accuracy while delivering them within a tight deadline. The transformation team introduced an RPA solution to make the change and reconcile the data with higher accuracy enabling a seamless transfer

- 3. Innovate to deliver efficient business outcomes** – Our approach to innovation is to create new assets and capabilities and significantly uplift existing ones that primarily deliver tangible and measurable outcomes. We use data-driven matrices to prioritise innovation of records to the new provider before the deadline.

candidates to suit an imminent opportunity or obstacle at hand or take a long-term view. The transformation team's Innovation Board meets quarterly, assessing innovation candidates against business and culture matrices, creating a scorecard of impact and then prioritising the ones to work on that deliver maximum business benefits/added value.

We had a situation where our business stakeholders experienced a high turnaround time for creating working prototypes for policy sign-offs during product implementation. To solve this problem, we created a drag and drop configuration tool, providing a user-friendly interactive visualisation with an edit capability to configure new and existing products in an expedited manner. The tool resulted in significant cost saving for the department for creating rapid prototypes in the Caseworking system (saving £1 million+), receiving expedited feedback from the policy and the business community and improving the GO TO market time (8x faster deliveries) for these products.

4. **Build resilience to deliver amidst uncertainties** – Complex products coupled with a dynamic stakeholder landscape require flexibility for our transformation team to respond quickly and embrace change with a positive mindset. We engaged with the product management team and the relevant stakeholders during the planning stages and recognised the uncertainties early in the planning cycle. The team keeps well-informed of

impending legislative or judiciary decisions and prepares to accommodate these last-minute high-priority asks. Our ability to course-correct and reprioritise helped us to deliver critical ministerial priorities in the Irregular Migration domain.

5. **Responding to Policy reforms** – With immigration and Asylum policy a key priority for the UK government, the transformation team's primary role is to respond to these policy changes rapidly and build a system that caters to the demands of regulatory and policy changes periodically. Mastek's transformation team recently implemented the Nationality and Borders Act-related New Plan for Immigration (NPI) policy change. The objectives of the NPI policy reform are i) to increase the fairness and efficacy of our system to protect and support people in genuine need of Asylum, ii) to deter illegal entry into the UK, thereby breaking the business model of people smuggling, and encouraging Asylum via a safe and legal route and iii) remove more easily from the UK those with no rights to be here. <sup>3</sup>(Home Office, 2022)

The NPI policy reform received Royal Assent towards the end of April <sup>4</sup>(UK Parliament, n.d.), and the transformation team was ready to implement the policy change within two months. During the policy implementation, we engaged with several stakeholder communities across the business and policy operation areas, tested solutions, and prepared the training materials to improve user adoption

resulting in the successful implementation of the NPI policy in the system.

The transformation we have embarked on with the Home Office to digitise and optimise the business workflows for Asylum products is a journey. The lessons learnt throughout the transformation will be iterated and improved upon to deliver continuous improvement capabilities faster, accurately and cost-efficiently.

We intend to co-create effective products and platforms with the Home Office, which enable the delivery of the complex Asylum Policy with confidence.

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Ramesh Ramakrishnan is a Senior Leader in Mastek, delivering digital transformation programs of Critical National Importance with an in-depth understanding of immigration, borders and biometrics. He joined Mastek in Aug 2017 to lead their digital transformation portfolio in the Home Office.

Rashi Malhotra is a Senior Account Manager in Secure Government Services at Mastek, with 15+ years of experience in Client Management, Business Development, Presales and Bid Management. She is responsible for supporting business growth and delivering innovation to customers.

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<sup>3</sup> Home Office, 2022. GOV.UK. [Online] Available at: <https://www.gov.uk/government/consultations/new-plan-for-immigration/new-plan-for-immigration-policy-statement-accessible>

<sup>4</sup> UK Parliament, n.d. Nationality and Borders Act 2022. [Online] Available at: <https://bills.parliament.uk/bills/3023/news>



Andy Smith  
Director, Government &  
Industry Relations  
SITA Advanced Travel Solutions

# Transforming Borders and Boosting Growth

**G**overnments need to reinvigorate their economies after the impact of COVID. For many nations this means getting travellers back, reuniting friends, family and for tourism and business. But we can't just return to the "old ways"; travellers expect to use technology to ease almost all aspects of their journey, and especially at the pre-travel and booking stage.

Indeed, the recently released SITA Passenger IT Insights survey (<https://www.sita.aero/resources/surveys-reports/passenger-it-insights-2022/>) showed that a massive 92% of passengers use either their mobile or desktop for travel booking. Also, the pandemic showed governments the value of understanding who intends to travel to their country before they begin their journey,

for wider benefits than just health security. In addition to traditional collection of data from travel partners, a direct digital submission from travellers enables governments to make decisions away from their ports of entry – effectively exporting their border. One of the most effective ways of doing this is with visa and travel authorisation systems.



## CHALLENGES OF TRADITIONAL VISA SYSTEMS

However, applying for a traditional visa can be time consuming and confusing for travellers. It might require the traveller to send forms, their travel documents, and other required documents to support their application for assessment. Or a visit to a consulate or embassy before travel, possibly in another country, which can be inconvenient and costly. As a largely manual process, visa processes have become complex and are inflexible. The traditional visa process has not adopted the advantages that modern technology provides and does not meet the

expectations of the modern traveller. As such there has been a marked decrease in the use of traditional visas.

According to research by the World Travel and Tourism Council (WTTC), in 2008, traditional paper-based visas accounted for 77% of visas issued globally. A decade later in 2018, they only accounted for 53%. What is replacing the traditional visa? Some nations have implemented visa on arrival processes – as the name implies, a visa that is issued when a traveller presents themselves at the border crossing point. While this is easier for the traveller,

it cannot contribute to national security as the border agency and security services don't have this important advance information on the traveller and so cannot carry out pre-clearance checks. And of course, should the newly arrived traveller prove to be inadmissible for any reason, this could (and has) led to fines for carriers and costs for governments running into tens of millions of dollars. The solution must be digitised travel authorisation solutions.

### eVisa

Digital version of a visa, simplifying the process, improve security and increasing efficiency



### Electronic Travel Authorization (ETA)

Online and mobile authorization granted to visa exempt nationals before travel



### Mobile Travel Authorization

Digital identity on-boarding with biometric and passport capture and verification



## DIGITAL TRAVEL AUTHORISATION

In many cases, governments are digitising their travel authorisation with eVisa and Electronic Travel Authorisation (ETA) solutions. These are very similar solutions, both allowing travellers to submit their application online and at home. eVisas are typically a digital replacement of existing paper-based visas and are therefore applicable to nationals from countries that already require visas. ETAs on the other hand provide increased

security as they are applicable to foreign nationals that are visa exempt. Without an ETA program, the government would not receive any information on this cohort of travelers before travel. Both solutions have distinct advantages over traditional visas including improved security, reduced administrative burden, easier travel, and increased visitor flows, promoting spending that benefits local economies and creates employment. For example,

India's introduction of an eVisa scheme covering 40 plus countries in 2014-2015 led to a 21% increase in international visitor arrivals and the creation of 800,000 jobs. More nations are following this trend. Indeed in 2018, the United Nations global body for tourism, the UN World Tourism Organization (UN-WTO), reported that 10% of all visas issued were now electronic, up from just 2% six years before.

**SMARTPHONES AND BIOMETRICS**

The rapid growth in the use and capabilities of smartphones brings convenient access to services such as live image capture of applicants and the chance to biometrically verify against trusted government-issued identity credentials from the comfort of applicants’ homes. This makes electronic applications from travellers very appetising for both the travellers themselves and for governments. Travellers are much more confident in the use of apps that reliably and

securely capture sensitive identity details. Governments can rely on increasingly secure identity assurance technology for quality image capture, accurate validation of images captured are of real applicants and reliable comparison with biometrics from identity credentials.

With the release of the International Civil Aviation Organisation (ICAO) Digital Travel Credential (DTC) standard, effectively a verifiable electronic version of

essential passport information, the use of mobile phones and linked biometrics will only increase further. All this means that governments can biometrically verify travellers’ identity and conduct biometric checks with greater assurance. They will also be able to offer, to the appropriate cohort of travellers, facilitated services on arrival, such as automated border control or even seamless border experiences.

**THE SITA SOLUTION**

SITA has deployed border management solutions for more than 25 years to support cross-border mobility while safeguarding borders, helping over 70 countries today. This includes SITA’s ETA system enabling the issuance of millions of travel authorisations each year, with about 99% of all applications successfully

processed in less than 12 hours, and many (c95%+) approved and issued instantly. When combined with the interactive Advance Passenger Processing (APP / iAPI) solution from SITA for reliably checking a person’s authorisation to travel, fines and repatriation costs associated with inadmissible travellers fall massively,

in one case from \$23m per annum to just \$3m (reference [https://www.anao.gov.au/sites/g/files/net616/f/ANAO\\_Report\\_2005-2006\\_34.pdf](https://www.anao.gov.au/sites/g/files/net616/f/ANAO_Report_2005-2006_34.pdf)). ICAO also recommend combining Travel Authorisation Systems with iAPI calling the combined offering Electronic Travel System (ETS).



**Extract from ICAO Annex 9 – Facilitation, Chapter 9**

**C. Electronic Travel Systems (ETS)\***

**9.17 Recommended Practice.**— *Contracting States seeking to establish an Electronic Travel System should integrate the pre-travel verification system with an interactive Advance Passenger Information system.*

**Note.**— *This will allow States to integrate with the airline departure control systems using data messaging standards in accordance with international guidelines in order to provide a real-time response to the airline to verify the authenticity of a passenger’s authorization during check-in.*

**HOW DOES IT WORK?**



# TRANSFORMING BORDERS AND BOOSTING GROWTH

The traveller completes the SITA eVisa or ETA application at their own convenience either through web or mobile channels without the need to travel to a consulate or embassy. The mobile app improves the data quality by automatically extracting the personal information from the passport data page. It also improves security by biometrically verifying the traveller's identity when the traveller uses an ePassport. Security is further enhanced by comparing the travellers passport against known templates and verification of the certificate against sources such as the ICAO

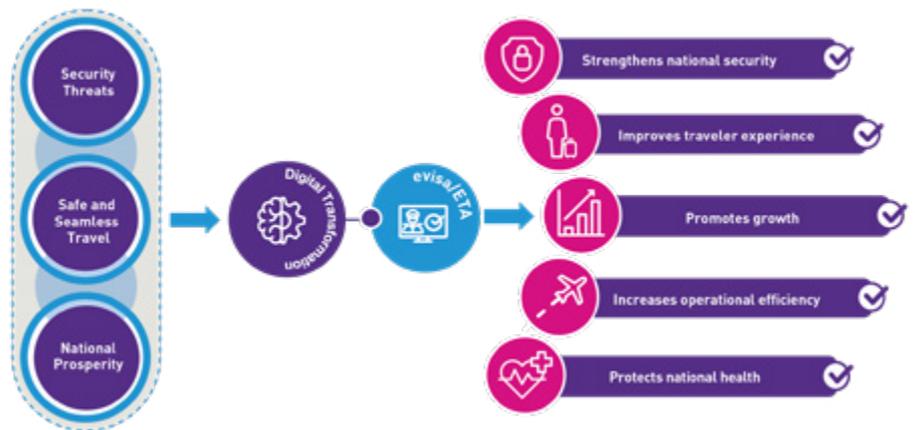
Public Key Directory (PKD) – all on the smartphone at home.

Travellers (and sponsors, if required) apply via an online portal or mobile app, which also allows for uploading of supporting documentation. Visa vetting functionality includes eligibility, watch list, identity, and immigration status checks as well as validation of quotas and sponsor registrations. Case management functionality is provided for, inter alia, resolution of problem cases, notification of approvals, renewals, extensions, cancellations, and sponsor management. ETA

and eVisa types and rules can be configured as needed. The product comes with a component to capture, verify, and enrol the traveller's biometrics. Alternatively, this could be deployed at the arrival airport so that this important information that would have been captured at an embassy or consulate is still captured under the eVisa or ETA program. This would also aid the capture of fingerprint biometrics, which often requires a supervised capture environment due to their sensitivity. The system can print traditional visa vignettes to attach to the passport, if required.

## THE FUTURE OF DIGITAL TRAVEL

We are finally at the point where we can implement joined-up digital travel across the entire journey. Using digital credentials and mobile device-based capabilities including biometrics and liveness detection, our border, carrier, and port authorities can accurately verify identity and authorise travel for many travellers remotely and confirm that travellers hold a valid passport and a verifiable digital eVisa or ETA. This digital travel model dramatically reduces the need to handle and verify physical documents, freeing up time for immigration and border officers to undertake higher-value investigative work, while avoiding unnecessary costs and disruption. Ultimately, once credentials are verified a person can



elect to seamlessly pass through all the usual airport and border processes using just their face as the token, replacing passports and boarding

cards for the entire journey.

All this starts when governments commit to the journey to digitally transform their visa policy.

ANDY SMITH has been delivering IT and Telecommunications solutions to the aviation sector for over 25 years. Joining SITA in 2007, Andy has focused on driving innovation and collaboration for airlines, airports and government bodies.

Since 2012 Andy has represented SITA's Government, Security and Border Management business. In addition to promoting the effective use of passenger data, pre-clearance, risk assessment, border management and biometric solutions, Andy continues to champion the collaboration of all stakeholders within the transport industry, with a focus on the passenger experience. After 5 years concentrating on the European market, Andy now supports SITA's global teams as Subject Matter Expert for Border Management, Immigration and Security solutions.

Andy has a Bachelor of Science Degree from De Montfort University (Leicester, UK) in Physics with Management Science. He is based in London.



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# Unlocking the value of data to accelerate the journey to contactless borders

## A TRAVELLER'S VIEW

As with any digital transformation, it's critical to get the views of the service's users. Without those important opinions, it isn't possible to create truly user-centric journeys. This is certainly true when looking at border management.

To get an insight into what service users think about interactions at the border, in June 2022 we conducted a survey of 1,020 representative UK citizens. The results were really intriguing, indicating that on the whole people were unhappy with their

recent border experiences, and that they were looking for change.

Let's take a look in detail at what the survey told us.

## DEMAND FOR CHANGE

Our survey started by asking whether citizens would change anything about their border experience. Only 8% of respondents stated that they wouldn't change anything about the experience because it's 'fine'.

That leaves a lot of people who want to see change. This may well

be a result of recent disruptions to international travel that fill our news bulletins with alarming regularity: operator staffing shortages, industrial action and Covid restrictions. Whatever the reason for the dissatisfaction, 8% is a wake-up call.

Private and public sector border operators know that there is a need to change and that doing so can both improve passenger experience and increase security. And there are already many initiatives seeking to do just this:

- The EU's Smart Borders initiative,

which tested new technologies to improve decision making at the border, was one of the largest pilots of its kind and has directly shaped future transformation plans.

- The ICAO Digital Travel Credential (DTC) will support the vision for contactless travel; providing a framework for the issuance, management and sharing of digital credentials, thereby removing the need for physical documentation and physical interactions at the border.
- The UK Government's plan to deliver a 'world-class' border by 2025 talks of significant changes in rail, air and maritime border crossings to create seamless and contactless border experiences that facilitate passenger and goods movements.

Transformation plans of this scale are challenging at any time. When we consider the current prevailing headwinds – Covid disruption, increased passenger volumes, cost reduction pressure – we must look for opportunities to make maximum impact as soon as possible, building iteratively towards the future border that passengers and operators want to see.

The good news is that it seems passengers are willing to do their part. 72% of respondents in our survey said they are willing for their data to be used and shared by border operators, if it means a better and more secure experience. And 88% would be willing to use new technology, like digital versions of visas. The results bode well for the adoption of those initiatives.

But what do we need to achieve contactless travel?

## DATA-DRIVEN TRANSFORMATION

Firstly, we need data. Adapting the physical infrastructure at the border is important, but a disproportionate focus on that infrastructure pushes the key feature – data – to the margins.



While there is a tendency to think of a border as simply a physical location, we should be considering the holistic border experience - starting with an application for permission to travel, through to the outbound and inbound interactions at the border, and until an individual wants to travel again.

Passengers interact with a variety of government and non-government entities, with trusted data created, managed and shared many times to minimise duplication and maximise privacy and security.

So, the key challenge is not a deficit of data – there are more than 30 organisations operating at the UK border, all gathering and using huge amounts of data. It's the ability to link disparate data sets, understand the degree of trust that can be placed on the data, and garner the insights and intelligence needed to inform decision making.

## TRUST BY DESIGN

We also need trust. To unlock the real value of data and create contactless borders we want to empower individuals to create, manage and share their data, giving them ownership and visibility.

Firstly, data needs to be created and issued by trusted entities, using secure methods and processes. They need to provide identity and data attributes that

are proven to a given level of assurance.

Secondly, individuals need to trust data owners to manage their data appropriately, with the requisite security and privacy measures. Or they should have the facility to self-manage their data. Only 14% of respondents in our survey said they 'always' trusted government to manage their data.

Finally, parties relying on that data need to trust its authenticity and reliability. Frontline delivery agents need to trust that they will get the right data, at the right time, to help them make the right decisions.

By fulfilling these principles, we will unlock a truly digital future. Passengers will seamlessly cross borders using trusted, verifiable data, where they will be accurately identified, filtered and processed.

## ACCELERATING BORDER TRANSFORMATION

We've identified many opportunities to introduce contactless travel, but to capitalise on those opportunities, more work is needed to:

1. Identify the data requirements for known passenger groups
2. Determine the data delta; the difference between the data required and the data available
3. Outline how to augment the data and provide holistic and complete data sets



This will then allow us to:

- Define what ‘person centricity’ means for a contactless border, providing the framework to adopt a person centric approach
- Map available and required data sets and whether they are sufficient to enable contactless travel
- Inform data strategy, paving the way for a single, structured approach to data aggregation and utilisation
- Overcome the trust gap through data insights
- Provide the foundation for a Common Data Model facilitating end to end contactless travel. 94% of people in our survey stated that they would be willing for personal data to be shared between entities across the travel sector, which could be enabled by a Common Data Model.

The appetite for common data already exists. Our recent white paper [‘Creating a roadmap for successful](#)

[digital identity adoption](#)’, outlined what organisations think about digital identity. We surveyed 100 technology decision makers and an incredible 85% felt that user-centric ecosystems that enable a user to create, manage and share their own data and identity attributes are the future of digital services.

### UNLOCKING THE VALUE OF DATA

So, by focusing on the enabling power of data, rather than just the physical border infrastructure, the journey to a seamless and contactless border can be accelerated. Building a decentralised data architecture that creates, manages and shares trusted data with the people who need it, is the foundation for future transformation.

Simple experiments, that leverage the traveller’s appetite for change and user needs, identify how data

can move us forward. With that, a truly digital passenger journey, with seamless and contactless border experiences, is possible in the very near future.

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Tom Staley is Sopra Steria’s Consulting Lead for Digital Identity. Recognised as a Trusted Advisor, Tom works closely with governments and businesses to combine fresh thinking and sector knowledge to identify and develop intelligent and innovative consulting solutions that re-imagine the future.

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Ben Brown is Sopra Steria’s consulting lead for Borders, Migration and Security. He has spent his private and public sector career in the government sector and continues to support clients and colleagues to solve problems and make the most of new opportunities.

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# JOIN THE GROWING IBMATA FAMILY



## Who can join?

### Supplier and Transportation Companies

- Transportation companies (including airlines, shipping companies, rail operators, freight forwarders) with a legitimate interest in supporting our aim;
- Port, airport, and other management entities with a legitimate interest in supporting our aim; and
- Those technology suppliers, business integrators and other private sector entities who, in the opinion of the Board, support the safe and secure movement of people and goods across international borders whilst facilitating flow, in accordance with the aims of the organisation.

### Public Sector Organisations and Academics

- All Government Departments and Agencies charged with the responsibility of managing the international movement of people, goods and materials across national borders; including pre-entry, on-entry and after entry applications;
- Intergovernmental organisations with a vested interest in the management of people and goods across international borders;
- Non-governmental organisations with a vested interest in the management of people and goods across international borders and legitimate academic organisations and research facilities.



Jean-François Lennon  
Vice President of Strategic Sales  
Vision-Box



# How Vision-Box is Redefining the Experience of Travel with End-to-End Solutions

Over the last two decades, airports and airlines have implemented elaborate processes in an attempt to cope with the growth of worldwide travel demand, somehow constrained by conservative approaches due to the weight of outdated platforms and infrastructures. Unfortunately, to deal with higher passenger volumes, most capital investments were directed towards increasing square meter capacity with bigger terminals and more landing fields, not the intrinsic platforms that serviced this increased capacity. The result was an inefficient push of travelers against outdated operations, increasing queuing times, and highly cost-intensive operations.

The pandemic was an unprecedented gamechanger of human behavioral patterns. The ways in which we interact with and experience our surroundings have been radically altered. The emphasis on social distancing and limiting human-to-human contact accelerated the move towards implementing seamless travel technologies.

Airports have shifted their focus on improving passengers' non-aero experience and revenue streams. Hence, they are now investing in solutions that aid in increasing the time spent before and after security and border controls to ensure that passengers spend less time waiting in queues and more time in the retail outlets. The pandemic itself was an accelerator for the innovation, development and implementation of biometric technologies and systems at border controls to create a frictionless experience for passengers whilst enabling airports/airlines and border control agencies to capacitate and handle a higher volume of movements in a more efficient manner.

Reports published by the [World Travel & Tourism Council](#) and [Fortune](#) have both discussed the growth and drivers of digital smart

borders and highlighted the fact that the seamless travel experience will drive the market for the next three to four years. The digitalization of all processes such as check-in, security and border management will involve biometrics allowing for the transformation of airport, airline and border control procedures, providing passengers with a seamless and hassle-free travel experience. Furthermore, an increase in adoption and travellers' comfort levels when using automated gates for identity control, boarding and border control has also been identified through studies published by [LSE](#). This shows a growth and change in passengers' willingness to adopt new technologies as 87% of passengers have positive feelings about identity control in comparison to 76% in 2016.

This acts as an advantage as Vision-Box has been creating a world where the travel experience feels effortless. We have been clear that these technologies are in fact the most secure, reliable, and efficient means to implement, and to truly empower all stakeholders – airports, airline operators, border control agencies, and most important of them all, the passengers. Our argument over the years has been to emphasise the fact that physical real estate and airport square footage is finite. To accommodate the growing passenger numbers, in a space efficient manner, airports cannot rely solely on expansion beyond a certain point. The only thing in their control is the way they can alter the space they operate to best utilise the footage already available. Through the right technology, we can process a large number of passengers securely and time efficiently, with minimal expenditure and redefine the traveler's journey by creating a world where every journey is seamless. Where all travellers move effortlessly, without stress.

## TECHNOLOGICAL INNOVATION AND BORDER MANAGEMENT

The technology required to modernise the traveller experience and strengthen safety is already designed and available, and it's clear that biometrics and seamless solutions will enhance the airport experience. Extensive research has shown that passengers are very selective, even when it comes to the services of low-cost deals, they will consider what their complete travel experience will entail, this selectiveness has been heightened further due to the pandemic.

Vision-Box's partnerships with various organisations has allowed for the introduction and implementation of Smart Borders and the EU Entry/Exit System (EES) within the Schengen area. These aim to modernize and expand the existing border control infrastructure and increase operational efficiency at airports, whilst guaranteeing compliance with EU regulations. These initiatives are set to replace the existing traditional border controls of Third-Country Nationals with fully digital passenger processing and automated biometric data collection as well as support officers in their duty whilst enhancing operational efficiency.

Vision-Box has provided several member states with the latest hardware for pre-enrolment, automated and manual border crossing supported by the cutting-edge Orchestra Identity & Border Management Platform. As a collaborative platform of real-time intelligence, it is designed to accommodate large volumes of information on passenger identity, passenger flows, connected devices, and third-party systems, thus streamlining communication between all travel stakeholders and crucially, putting the passenger's interests at the core. This offers an end-to-end

solution, that is human-centered, including automatic and assisted capture of regulatory information, ingest, process and control of all required data whilst guaranteeing GDPR compliance at every step of the journey.

## 2022 AND BEYOND

With the travel sector finally picking up after the downfall caused by the pandemic and more people travelling, there is an increased need for automated, streamlined processing of passengers. Implementing biometric technology allows travellers to speed through the border with 70x faster processing times allowing airports to make better use of their footage space and process a high influx of passengers more efficiently.

The implementation of seamless and contactless platforms is currently at full speed all over the globe, and the major impact of this is expected to be felt by 2023, as planning and deployment usually needs 12 to 18 months to be effective. The way passengers interact with travel stakeholders along their journey is transforming at an accelerated pace with passengers increasingly demanding easy-to-use, safe, and seamless experiences which put data privacy at the center. To create truly seamless travel experiences for today's connected travellers, stakeholders must take traveller knowledge and traveller experience technologies into account -- and plan their implementation strategies accordingly. For example, data privacy is of great concern to many passengers, when it comes to the deployment of biometric facial recognition technology.

Consequently, Vision-Box is addressing these concerns by delivering its Orchestra multi-stakeholder digital identity management platform, privacy-by-

design certified by MSCEB in every aspect of its architecture, making information protection a core component strategy. This approach allows the individual traveller to control access to certain information, thereby keeping data securely stored and compartmentalised. Taking this into account, the passenger always retains ownership of all their personal data in the deployment of biometric facial recognition technologies, as well as throughout the entire journey.

## WHAT'S NEXT

In this age of the digital traveller, when the seamless travel experience is the cherished ideal, creating faster, easier experiences is more important than ever. For airports, airlines, and border forces, meeting this challenge requires a customer or passenger-centric approach that fully takes on board all aspects of passenger behaviour. Passengers today are demanding frictionless, painless experiences and customised travel journeys, in which they spend less time in queues and more on airport services and amenities. Biometric facial recognition technology is a key contributor in facilitating this situation. Therefore, these organisations must fully understand the implications of traveler sentiment regarding the technology and establish a common and trustable layer of passenger data exchange so the full travel journey can be seamless.

To this end, air travel stakeholders require a comprehensive understanding of the needs, preferences, and pain points of today's passengers -- a holistic view that informs stakeholders of how best to deploy their resources and provide the interactions and processes necessary to provide a meaningful travel experience. These stakeholders need to know the passenger

holistically, so they can invest in the right biometric technologies with lower risk, implement digital strategies and processes, and fundamentally create one-to-one relationships. With that essential knowledge of the passenger profile, they can have long-term business successes and become future-proof players in the market, meaning they can easily adapt to the ever-changing travellers' needs and stay ahead of the competition.

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Jean-François Lennon is Vice President of Strategic Sales at Vision-Box, a leading provider of Seamless Travel and Digital Identity Solutions. Jeff is a Senior executive with over 20 years of experience in the security and digital technology industries. Jeff's career broadened his market insights and expanded his international experience by opening and growing markets throughout the world. Since joining Vision-Box in 2012, Jeff embarked on wide-ranging projects spearheading the exponential growth of the company. He currently leads strategic sales and partnerships on a global basis and is a key contributor to the scaling plans of the company. Jeff has a growing reputation as an industry thought leader and digital ID evangelist, combining his proficiency in transversal entrepreneurship and strategic thinking with a profound understanding of transformational trends.

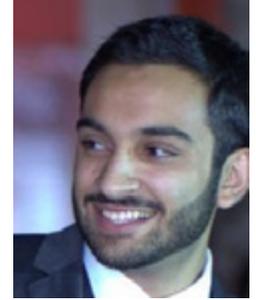
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# Finding the needle in the haystack: Using advanced analytics to improve performance in customs agencies

MACHINE LEARNING AND OTHER ANALYTICS TOOLS CAN IMPROVE FRAUD DETECTION AND STRATEGIC WORKFORCE PLANNING, AMONG OTHER POTENTIAL BENEFITS.

Customs agencies around the world are under immense and growing pressure at a time of rapidly increasing cross-border e-commerce, shifting regulatory environments, and supply chain disruptions, including repercussions from COVID-19 and the war in Ukraine. The good news is that agencies also have an expanding number of digital tools that can improve performance by identifying and tracking issues before and at the border—and even once goods have left.

Deployment of advanced analytics could make a significant difference in a number of use cases. Among other applications, analytics can radically improve fraud detection, minimize revenue leakage, and bring new transparency to audit coverage.

In short, if the work of customs agencies is to find needles in haystacks, machine learning and other data analytics tools could both magnify the needles and shrink the haystacks, making detection faster and more reliable.

## THE RETHINKING OF RISK MANAGEMENT STRATEGY

The customs operating model is already stretched, and that tension is likely to grow. Cross-border e-commerce alone is projected to grow from \$300 billion in 2020 to \$1 trillion by 2030.<sup>1</sup> This will increase declaration volumes and could expose customs agencies to unprecedented levels of security and revenue risk.

Moreover, the COVID-19 pandemic has prompted many companies to rethink their supply chains and

<sup>1</sup> Eszter Beretzky, Ludwig Hausmann, Tobias Wölfel, and Tim Zimmermann, “Signed, sealed, and delivered: Unpacking the cross-border parcel market’s promise,” McKinsey, March 17, 2022.

the locations of their physical operations. All this has coincided with heightened friction in global commerce as trade disputes have escalated. As a result, customs agencies have made developing new risk management strategies a key consideration.

Some customs agencies are not up to date in their risk management. One leading global customs player

used a risk engine driven solely by human input to identify potential risks in imports and, in doing so, would deploy risk profiles that were many years old. When a random inspection exercise was conducted, the agency found the number of violations to be 20 times larger than predicted by the existing risk engine. Similar limitations in terms of revenue management also became

apparent: historical performance, rather than an understanding of up-to-date insights, was used to set post-clearance collection targets. This all led to realizing revenues that were below their full potential. It also prompted excessive auditing that ultimately burdened operations during a time of already heavy demand on customs agencies.

## THE BENEFITS OF DEPLOYING ADVANCED ANALYTICS

A range of advanced-analytics techniques are being deployed with increasing success. Machine learning in particular can be used to train machines to sift through enormous volumes of data to spot patterns and anomalies, including potential fraud, which is particularly pertinent for customs agencies.

The potential applications of such technologies extend across the trade journey—that is, they can be deployed before the border, at the border, and after the border (exhibit).



**Before the border:** Advanced analytics can help agencies obtain information about traders early in the value chain. Using existing digital tools such as Microsoft Power BI and Tableau can provide customs agencies with a dashboard for accessing declaration data for all shipments. Analytics can help detect potentially fraudulent

importers using historical data or even information from within traders' commercial supply chain systems, including their transport management systems and manufacturing execution systems. Techniques such as natural language processing can comb through large amounts of text data from declarations and detect anomalies

that could help identify illicit trade as early as possible. Such programs can instantly flag suspicious activity—for example, if the trader is a car company but the good being imported is a bed. Natural language processing can also support traders by giving them tools to ensure they are less likely to make mistakes on their declarations, such

as by allowing them to identify the correct commodity code based on a few questions or free text.

**At the border:** Use cases at this step including auditing at the border, which can identify manipulation of commodity codes or goods valuation. Analytics can also improve operational performance in areas such as workforce planning, health and safety, and performance assessment of auditors. For example, advanced analytics can direct customs officials to open the right consignments using historical data and inputs from early warning systems. And analytics can be a potent tool for strategic workforce planning, including in matching workforce schedules with demand.

**After the border:** Use cases at this step are about identifying and addressing revenue leakage. One case study from a G20 country highlights the potential upside of analytics. The customs agency in that country was seeking to improve its risk and revenue management by ramping up its audit function and implementing a new targeting team. It recruited about 200 auditors and started conducting about 2,000 post-clearance audits annually, most of which were cases that had been incorrectly identified as compliant.

The agency, quickly realizing that the rate of detected violations was very low, moved to strengthen its risk-targeting engine by building two machine-learning models using advanced analytics. The first was a “supervised” model that learned from past audits by selecting similar noncompliant cases and excluding any compliant cases. The second was a more sophisticated “unsupervised” model. This identified noncompliant cases that differed significantly from what was expected, essentially flagging anomalies that had previously gone undetected.

The upshot: after implementation of

the post-clearance audit models, the detected violation rate doubled from 30 percent to 60 percent, and the agency’s workforce productivity jumped by 75 percent. In all, the customs agency was able to achieve a 15-fold increase in revenue per auditor per year.

## GETTING STARTED

Customs agencies can consider deploying advanced analytics in the heart of their operations now. The World Customs Organization, for one, is committed to it. Its priority for 2022 is “scaling up customs digital transformation by embracing a data culture and building a data ecosystem.”

In the European Union, initiatives are being tested to use advanced-analytics tools to improve customs risk-management practices. A project called PROFILE aims to facilitate and accelerate customs agencies’ advanced-analytics capabilities, including the incorporation of external data sources to enhance risk profiling of imports<sup>2</sup>. Customs agencies under the program can access data owned by big data providers as well as e-commerce websites.

According to an analysis by the World Customs Organization, the proof of concept for this project is being rolled out in Belgium, the Netherlands, and Norway, among other countries. In the Belgian “living lab,” where the testing is taking place, analytics tools are being used to establish risk indicators for traders. In the Dutch living lab, price information is being collected from peer-to-peer online marketplaces and web stores and compared to average prices in e-commerce declarations. And in the Norwegian living lab, import and export risk is being assessed at the border through analysis of trade data<sup>3</sup>.

Adopting advanced analytics can be challenging, and many consider it an aspiration for the future, rather than

something that can be achieved right away.

One important myth can be challenged: customs agencies do not need perfect data to start their advanced-analytics journeys. They can start by leveraging the data they already collect. Our analysis suggests that many customs agencies could experience the benefits of use-case pilots in as little as 12 weeks, with tremendous potential impact. In terms of magnifying needles and shrinking haystacks, that is a very short time indeed.

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2 Juha Hintsa and Toni Männistö, “PROFILE: Enhancing customs risk management,” World Customs Organization (WCO) News, accessed July 18, 2022.

3 Ibid.



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# Biometric ETA is here to stay: The game- changing capture of rich identity data before travel



An Electronic Travel Authorization (ETA) is not a visa; it's a simpler, quicker, and mostly automated process by which non-visa travellers declare their identity information before leaving home. A concept that began with the long-established Australian ETA and US ESTA (Electronic System for Travel Authorization) has been surprisingly slow to catch on in other countries, despite its promise to fill a significant gap in entry data. But now Canada and New Zealand are on board, to be followed soon by the UK and the EU.

Early ETA iterations have tended to rely on self-completed online forms. This is quick and easy for the traveller, but has two significant drawbacks:

- Whenever passengers are invited to fill out their own data in free-form fields, there will inevitably be a good deal of error as applicants make mistakes with their passport numbers or even their own names. Experience from such schemes suggests as many as 15 to 20% of applications include such errors. This causes additional work for the responsible agency, which must then deploy trained border officers on the painstaking but unproductive work of fixing typos. Not the best use of scarce resources.
- All the early ETA schemes began as biographics-only checks, meaning that they were limited to information about the traveller and did not include biometric security. The problem with this – when coupled with open-text online forms – is the potential for deliberate fraud amongst the innocent typos. Where there is a problem with identity or admissibility, it is often not discovered until after the passenger has already travelled and is standing in the arrivals hall, creating an expensive logistical problem for the receiving border agency.

Thanks to rapid recent improvements in biometric technology, these two issues will soon be behind us. The NFC capability embedded in most smartphones can turn your iPhone or Android into a very effective passport reader. And the explosion of facial matching and liveness technologies means that requiring passengers to submit biometrics as well as biographics is no longer a pipe dream.

In short, a well-managed, remote IDV (identity verification) service, incorporating NFC, facial matching and liveness, can add both data automation

and biometric security to any ETA or similar process.

A quick review of some of the world's leading ETA schemes shows that this approach is gaining traction:

- Australia's recently renewed ETA process is already operational with a full IDV process accessible via its Australian ETA app.
- The NZeTA now includes an optical passport scan and a photograph, which represent a couple of steps in the right direction, even if New Zealand is not yet quite as advanced as its Antipodean neighbour.
- US CBP recently announced its plans to add both passport scanning and facial matching technologies to the ESTA process.
- Canada's ETA system, while still biographic only for now, is modeled closely on the US ESTA. It's only a matter of time until the Canadians take a leaf from the book of their southern neighbour.

During 2023 and 2024 we can expect to see the rollout of both the UK ETA and the EU ETIAS (Electronic Travel Information and Authorisation System):

- The UK has already announced its intentions to deploy its existing immigration IDV capability at the front door of its new ETA system. That might very well make the new UK system the first ETA globally to be built with biometric security embedded from the outset.
- Of more concern are EU plans for its new ETIAS and the related EES (Entry-Exit System). The EU regulations giving birth to these two initiatives were ratified in 2016 and 2017 respectively. Identity technology has moved on significantly in those six years. There is hopefully still an opportunity for the EU to revisit some of the core concepts inherent in its plans,

including the notion that a non-visa passenger's arrival at the border presents the first opportunity to collect their biometric data. That was true in 2016, but it's not true anymore.

The above focuses on the initial capture of data for ETA purposes. That is, of course, not the end of the story. Perhaps the bigger question for all the countries named above is this: what do they plan to do with the data captured, and how can it be used to improve both border security and passenger facilitation?

In some cases, downstream immigration systems have already been updated to handle rich biometric and biographic ETA data; in others, there is still work to be done on how exactly the above developments can and should be used to transform both border and post-border processes.

One example of this can be seen in airport arrivals halls, many of which are now home to expensive and space-guzzling eGates (in Europe) or kiosks (in North America). The central function of these gates and kiosks is to match the face (or fingerprints) of arriving passengers with their passport or other identity document. But, wherever a fully-fledged, biometrically secured ETA process is in place, that match has already been done and communicated to the receiving border agency before the passenger's arrival, and often before their departure.

Do we really need to match the face and document again at the border? Or would a simple facial biometric check at the border not be sufficient to link the arriving passenger with the matched data packet that the border agency has already received?

This concept was captured succinctly in the new UK government paper, *New Plan for Immigration*, published in July 2022<sup>1</sup>. Amongst several other

innovative ideas, the UK Home Office declared its interest in the use of nonstop biometric corridors to capture the facial biometrics of new arrivals, to make a one-to-one match against the data already submitted.

We at Entrust have been testing precisely this concept for some time now via the Chain of Trust pilot with Canada Border Services Agency and (with our partner, iProov) in the SmartCheck pilot for Eurostar. In both these pilots, participating passengers opt to submit both biographic and biometric data remotely before travel. On arrival at the airport or railway station, respectively, a quick, simple facial match is sufficient to link the person to the data already submitted.

This is a simple idea with profound consequences for the border of the future and for improving the travel experience more generally. It raises serious questions about the nature of border infrastructure and about where identity verification can and should take place in the travel continuum.

The biometric ETA has arrived already and is here to stay. Now is the time for governments and industry to work together to make sure we deliver all the downstream benefits it promises.

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Jon Payne is Director, Business Development for Entrust's Identity Verification business unit. He joined Entrust in 2021 via the acquisition of WorldReach Software. Jon has more than 25 years' experience in immigration policy and operations, having served as Regional Director, Americas at UKvisas, and as Director of CSC's Global Citizen Services Center of Excellence.

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1 <https://www.gov.uk/government/publications/new-plan-for-immigration-legal-migration-and-border-control-strategy/new-plan-for-immigration-legal-migration-and-border-control-accessible>



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# Public Private Partnership - How Fujitsu & its Partners are Piloting an Ecosystem of Trust with HMG



**T**he world is changing; international borders are much more than just lines on a map. As the UK seeks to transform its border, the need for dynamic policy, greater collaboration, and the technology to leverage this will be key.

New and emerging technologies are

transforming every area of human interaction, and the border is no exception. Borders have long since been simply the physical frontier or lines on a map; they are a complex combination of people, processes and technology which cross over many timelines and legal areas.

Whilst the overarching aim of any

effective border is to enable and facilitate the movement of people and goods in a safe and secure manner, new technologies are creating the potential for transformation. We are able to innovate to strengthen security and meet the challenges of ensuring border flows, but we are also able to be more ambitious about the border

becoming a tool for national prosperity.

This paradigm shift is also changing the way in which we interact with the border. Policy makers must rapidly keep up with evolving technologies as they shape our border requirements for the long term against a backdrop of higher expectations on the part of users. Businesses and passengers need to stay abreast of the convoluted methods of collecting and submitting data into several government systems. Whether you're booking a trip via an airline or ferry, or pre-lodging a customs declaration for a trans-national shipment, you are interacting with the border in both a digital and physical form. The challenge is trying to link these; how to ensure the digital flow of data matches the real-life movement?

To make matters more complex, we faced unprecedented challenges from COVID-19 at the same time as policy makers were designing the future of the UK border following the exit from the European Union (EU). These not only called for new legislation and support to be rolled out swiftly by Her Majesty's Government (HMG) officials but required significant amounts of trust and collaboration between the public and private sectors. As the UK Border Strategy 2025 states 'Private sector organisations are integral to the operation of the border and much of the border operating environment is jointly delivered by industry and government'.

### WHY IS COLLABORATION WITH THE PRIVATE SECTOR SO IMPORTANT TO PUBLIC SECTOR TRANSFORMATION?

Firstly, **as we look forward, the landscape is changing.** Within the 2025 Strategy and the ambitious targets set out by Brexit Opportunities Minister Jacob Rees-Mogg for December 2023, there are some key themes such as digitisation, automation, and

trusted trader/traveller frameworks that underpin the wider vision. Programmes which link digital traveller credentials to biometric data and help develop the Single Trade Window dominate the attention of border transformation in the UK. New legislation like the Electronic Trade & Documents Bill are paving the way for further digitalisation of border process, allowing key compliance documents to be applied for, granted and stored online. These initiatives are clearly helping to line the UK up to maximise on opportunity post EU Exit and implement a Single Trade Window.

These initiatives are all fundamentally linked to a shift in the current operating model; we are **changing the way we view the border.** There is growing appetite, not just in the UK but globally, to move to an audit-based model which prioritises systems over transactions and focusses on trusted trader/traveller schemes. This new model challenges the traditional transaction-based thinking to **enable more seamless movement by placing trust back into the global supply chains.** By working together, HMG can partner with industry to test and develop new innovative solutions that are created collaboratively, exploring policy, process and technology to ensure strong engagement and adoption across the sector. Working in this way, industry can have a voice and help shape the future model.

**There are also a range of skills and expertise that industry can bring to complement HMG,** in particular the operational and institutional knowledge on offer along with the innovative possibilities of technology such as blockchain and AI. The private sector can help HMG to achieve border transformation by introducing new solutions combined with digital capability, to work alongside the policy objectives.

### SO WHAT IS THE PRIVATE SECTOR ALREADY DOING TO ALIGN TO GOVERNMENT OBJECTIVES SET OUT IN THE 2025 UK BORDER STRATEGY?

Within the customs and trade sector, HMG is proactively exploring how new and emerging technologies can help innovate complex border processes and improve the way not only HMG views the border but how traders do also. This will be key when looking at the future of the UK border, and how we incentivise trade post EU exit.

A central tenet of the 2025 UK Border Strategy is the creation of 'ecosystems of trust' (EoTs) which are founded on the sharing of real-time supply chain information to all relevant supply chain stakeholders, including border agencies and port authorities. Working together, industry and HMG can each offer and enhance solutions that focus on specific areas of transformation; for example, enhancing freeports, and supporting key maritime and Roll-on Roll-off (RoRo) trade. We can set up ecosystems of industry experts, technology providers and policy makers to pilot and test key features and functionality of the UK Single Trade Window, and help solve some of the challenges faced by the sector as whole.

To this end, Fujitsu and its Partners are proud to have been chosen to run a pilot with Cabinet Office to prove the Ecosystem of Trust capability for RoRo freight traffic across the short straits between Dover and Calais.

**For the Fujitsu led EoT Pilot, we will work with HMG to transform the way in which the border uses technology to promote assurance and ultimately boost trade without compromising the UK's safety and security standards.**

# PILOTING AN ECOSYSTEM OF TRUST

## LEVERAGING EXISTING SUPPLY CHAIN DATA

A consistent, secure, reliable, timely and complete dataset is at the heart of our EoT. We believe we can prove that such a dataset can be provided for the RoRo vehicles, drivers and consignments that comprise £120bn of goods trade annually across the short straits. We can collect readily available commercial data from the supply chain, link it to the freight vehicle to continually verify the integrity and compliance of the movement of goods throughout their live journey. By sharing this information digitally with HMG in real-time, freight vehicles can be pre-cleared to flow seamlessly through the ports, while security and compliance is actually increased.

## OUR PROPOSAL IS BUILT ON THE FOLLOWING PRINCIPLES:

- Modernisation of the existing Trusted Trader schemes offered by HMG;
- Innovations in technology, which can both ensure that the integrity of the data presented is accurate, reliable, and obtained from the correct sources; and assure the movement of goods, detecting fraud or tampering;
- Better sharing of data between Government and industry supply chains. Cooperation and co-design with HMG sits not only at the heart of HMG's border vision but also within ours.

### During the pilot we will:

1. Utilise our Atamai Freight product to provide evidence that it is possible to monitor and assure the integrity of a journey using an innovative approach to the use of industry standard GPS enabled Smart Seals.
2. Build the foundation of a Tiered Trusted Trader framework to evidence how such a framework could be scaled up, including examples of the attributes of each tier.
3. Simulate a Registered Driver Capability using digital identity verification with our partners at Entrust & Gatekeeper Security.
4. Use the above in combination, to provide an enriched dataset to help HMG perform advanced risk analytics.



Technology platforms capture supply chain information to complement other data sources and inform advanced risk assessment. Targeted interventions on high-risk consignments can be planned and prepared in advance. All data will be aligned to WTO-ICC Standards Toolkit for standardised Supply Chain integration and co-operation.



Businesses register with a Trusted Trader programme and agree to implement operational compliance and security procedures in exchange for improved trade facilitations. Financial and logistics records must be stored and managed appropriately, which are auditable to maintain integrity in the supply chain.



The identity of the driver is captured digitally from known trusted sources such as passports and driving licenses. This verified, digital, ID can be further validated against watchlists and using technologies such as facial recognition to enhance security, assurance and speed up check-in times.

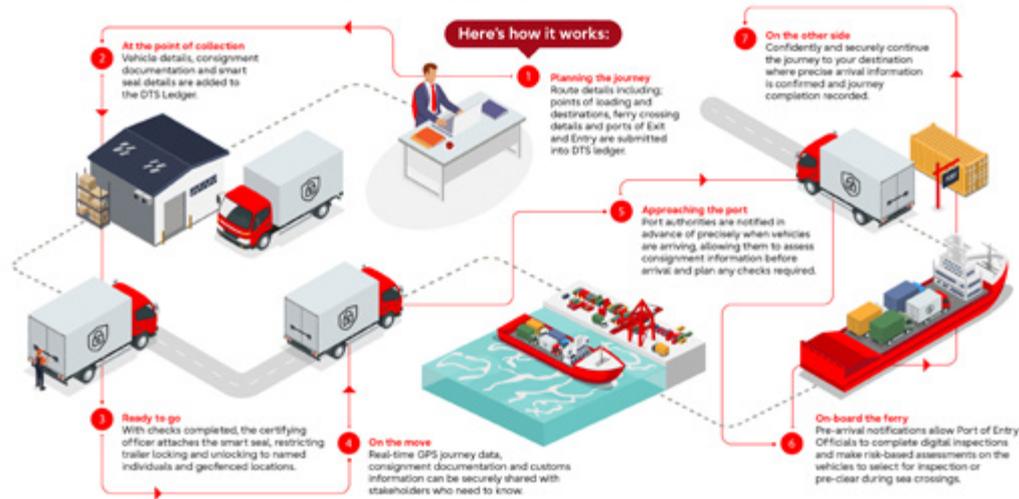
Trust that unauthorised changes to consignments have not been made enroute is vital. This can be achieved either by scanning vehicles at ports, or by securing and continually monitoring the vehicle throughout its journey. Physical inspections and audits can be performed to monitor compliance at any point of the journey.



**ATAMAI FREIGHT**

In order to demonstrate the Secure and Monitored Transport part of our pilot, we will use Fujitsu’s Atamai Freight solution. Atamai creates a ‘Digital Twin’ of freight vehicles, their consignments and journey details – which is integrated and tracked via blockchain-linked and GPS-tracked Smart Seals. Atamai is currently live and tracking Sanitary and Phytosanitary (SPS) goods movements between Great Britain and Northern Ireland where it provides benefits to industry and HMG.

Smarter and more secure journeys from beginning to end



**ANTICIPATED BENEFITS:**

- By collecting as much commercial data from source as possible, we believe we can increase the reliability and traceability of supply chain data without adding human error across many stakeholders.
- By adding commercial data to existing compliance documentation, and linking it to the real-time physical movement, we can increase transparency and security, offering an unprecedented view of goods traffic through the short straits.
- By streamlining the supply chain data and creating this one source of truth, we will push the data in an immutable format on our platform using blockchain technology, reducing inconsistencies and without requiring business to submit duplicate data into several government systems.

Ultimately, our EoT seeks to pilot a new model, enabling HMG to pre-vet goods, vehicles and drivers before arrival in UK ports, whilst making the process simpler, faster and more

reliable for traders within a simulated tiered trusted trader framework.

The pilot will run for 6 months until December 2022, during which time Fujitsu and its Ecosystem of Partners will have worked with Cabinet Office and key Government Departments such as HMRC, Border Force and DEFRA to understand how scalable our pilot is for both road freight and beyond, and how the learnings can help shape the future of the UK border and improve the experience for us all. By reducing duplication of data across multiple systems and improving the visibility and security of goods moving between the UK and EU, we can make great leaps towards transforming the UK border. Each of us in this new ecosystem can demonstrate trust by working collaboratively to deliver a crucial part of the border transformation puzzle.

For more information on the pilot, please contact Ian Clark, Programme Lead for EoT [ian.clark@fujitsu.com](mailto:ian.clark@fujitsu.com) or to learn more about the Atamai Freight platform please contact John Clarkson, Business Development Lead for Atamai at [john.clarkson@fujitsu.com](mailto:john.clarkson@fujitsu.com)

*Why Fujitsu? As a strategic supplier to government for over fifty years, Fujitsu is a global IT company of fering world class digital solutions and transformational services. From Hybrid Workplace Services, Cloud and Hybrid IT, Agile Application Services, DevOps and Cyber Security, to cognitive and advanced technologies such as AI, Automation, and Quantum Computing, Fujitsu can help you transform confidence in digital. Our services touch 99% of the UK population each day and this expertise provides a deep insight into the options available to both address the challenges and maximise the opportunities of EU Exit, whether through the application of today's technology or the exploitation of emerging technology which can transform UK border performance. As a responsible business with a 5\* rating in Business in the Community's Corporate Responsibility Index, we are proud to work alongside our charity partner Autistica. For more information visit [www.fujitsu.com/uk](http://www.fujitsu.com/uk)*



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# The future of visa-free travel: travel authorizations as a permanent security fixture

**T**he introduction of an electronic travel authorization system granting visitors “permission to travel” to the United Kingdom has been a fixture in the news since it was first announced. While the UK was one of the first to completely remove COVID-19 entry restrictions, a large proportion of visitors will soon be eligible for new requirements including pre-screening and advance vetting by the British Authorities.

A similar scheme for the EU, the European Travel Information and Authorization System (ETIAS), is set to launch in 2023 for visa-free travelers looking to enter the bloc. The rationale is the same - reducing queues and waiting times while significantly reducing the burden on Border Officials on arrival.

Despite a hefty price tag (more than half a billion pounds for the UK) and a series of significant delays for most government IT developed systems (ETIAS is now to be delivered more than 3 years late and likely well over its initial budget of €209 Million) “travel authorization” is the security buzzword du jour - with more than 30 countries set to introduce one within the next five years.

So why, as borders begin to reopen after a damaging two years and appetite to travel finally ramps up again, are Governments looking to add what appear to be more barriers and obstacles to free movement?

The answer is simple: travel authorizations are the only way to continue to allow VISA-free travelers cross borders. Travel authorisation

boosts national security and guarantees unprecedented intel about visitors to your nation.

When done right, travel authorisation helps Governments to ensure that only approved travelers are able to board the aircraft, ship or train and stops undesirable or high-risk travelers from arriving at the border. Travelers that could bring diseases are prevented from traveling and infecting fellow travelers.

Travelers also benefit from the elimination of nightmare queues on arrival, while advance approval can also provide peace-of-mind that they won’t get turned away. All this is enabled by each traveler spending only a few minutes in the comfort of their homes prior to travel.



## Complete your Travel Authorization and Digital Passenger Declaration

All travelers to the Seychelles are required to complete a Travel Authorization & Digital Passenger Declaration in compliance with the Ministry Of Health Entry Requirements, Immigration Decree Section 6 & 9 Form IMM/3A and Section 75(1) of the Anti-Money Laundering and Countering the Financing of Terrorism Act, 2020. Failure to comply may lead to a penalty fee upon arrival.



### Seychellois Citizens

Choose this option if you're a Seychellois citizen to complete your Digital Passenger Declaration.



### All Other Travelers

Choose this option if you're a resident/permit holder or visiting Seychelles for any other reason to complete your Travel Authorization



### Airline Check-in Staff

For airlines, cruise lines and hotels: check the status of a traveler's application here.



### Travelers

Check the status of your application.



Cookie Settings

In the past, travel authorisation systems were reserved for wealthy nations such as the US, Canada and Australia - countries with significant time, budget and resources to dedicate to building and maintaining a complex solution.

Today, smaller Governments around the world are also feeling the pressure to enhance their security, manage their borders and limit the risks of international travel. Yet many rely on tourism and cross-border travel for their economic growth, and most are still not recovered from the pandemic or are scarred by past terror events

For these nations, a travel authorization system offers the future of visa-free travel - digital, predictive and seamless borders fit for the 21st century and its transnational threats.

At Travizory, we have developed a ground-breaking solution leveraging latest technologies that delivers the predictive ability, cloud-based agility and innovative financing model needed

to make this a reality for countries no matter their size.

## PREDICTIVE BORDERS: IDENTIFYING NEW AND EVOLVING THREATS

In a world of increasingly sophisticated threats, visa-waiver programmes must be able to predict, adapt and respond to an ever-evolving landscape of challenges. A travel authorization system needs to verify identity and validate all manner of identity and travel documentation, learn from past encounters, and build effective profiling rules to limit exposure for the nation.

Using advanced biometric and artificial intelligence technologies, Travizory's industry-leading travel authorization system anticipates threats and gives Governments the tools to take decisive action. Profiling algorithms intelligently identify any passengers that require further processing while our biometric

capabilities allow us to verify identity and accurately match travelers to national and international watchlists.

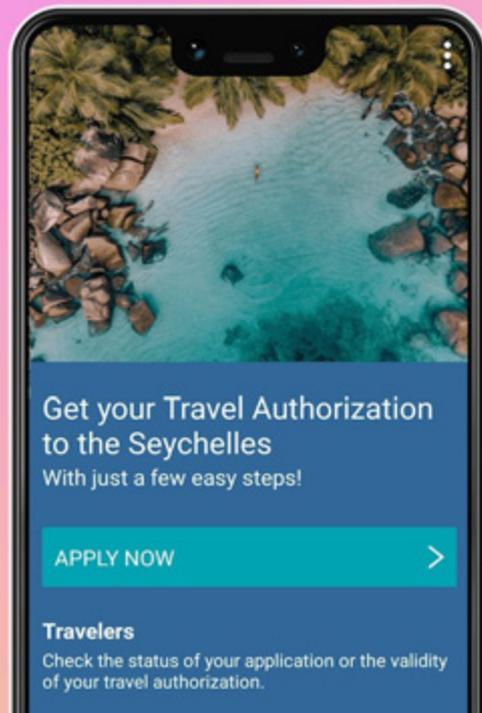
Whether it be health or wider security risks, robust passenger screening serves as the foundation for any nation looking to secure their borders.

## RAPID RESPONSE AND DECISIVE ACTION

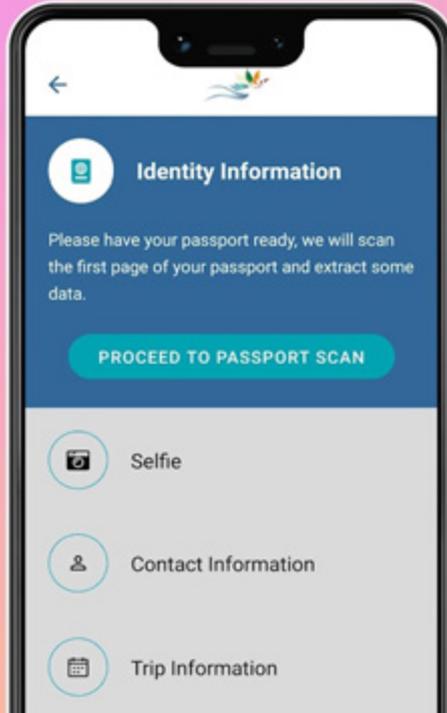
The beauty of going digital means that once hefty systems become nimble, dynamic and agile. Countries are constantly faced with new threats overnight - whether that be health risks (Ebola, COVID-19, Monkeypox) or security threats (illegal migration, drug smuggling) - and a travel authorization system can provide Governments with a much-needed additional line of defense.

The digital border system gives countries the tools they need to update their response in real-time and immediate action. When a number of

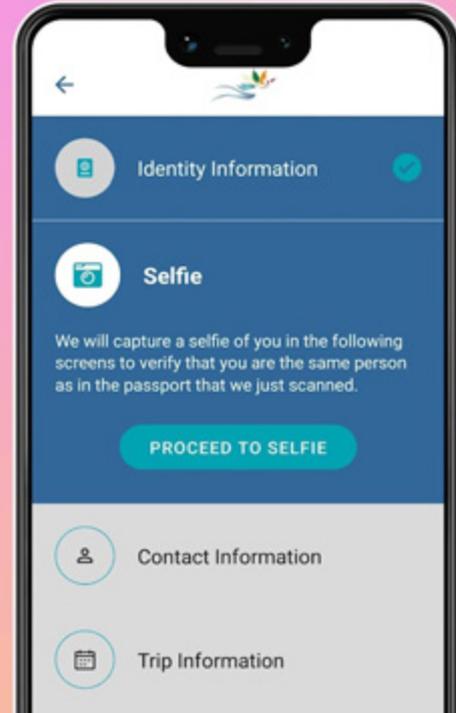
## Get Authorization to Travel to the Seychelles Islands



## Scan Your Passport and Start Your Application



## Say Cheese and Take a Selfie for Your Arrival



West African countries recently had an Ebola outbreak, these countries were immediately added to the no-fly list by one of Travizory's customer nations. In real-time, the travel authorization was adapted - protecting the nation from imported cases, updating no-fly lists and informing airlines, airport staff and passengers directly via the authorization portal.

A digital system must not only give you actionable intelligence that you can work with, but also the tools needed to tackle the issue head on.

### INNOVATIVE DESIGN

The reality for many countries is that large budgets or lengthy timeframes for infrastructure projects are no longer feasible, especially for the many nations that took an economic hit over the past few years.

Innovation shouldn't just apply to a product's capabilities but in today's world must also apply to all aspects of a solution. Recognising the pressure on

national budgets, Travizory's system was built to be self-financed with no upfront investment required. In fact, the traveler-funded solution can also generate revenue for a government and support an economic recovery that goes beyond open borders.

Contrary to some concerns, such a model is not a deterrent to travelers looking to get back to normal and is a small price to pay for a quick, secure and seamless experience on arrival. One of our customers has seen visitor numbers surpass pre-COVID numbers since introducing our travel authorization system, and reduced arrival waiting times by almost 75%, while providing net new revenue to the Government. Of particular importance, the system was implemented and ready-to-use in just 6 weeks - unheard of for legacy systems offering a fraction of the benefits.

Travel authorization systems have been in place for many years and look set to become the norm for

visa-free travel globally. With most Governments facing a similar need to facilitate a seamless experience without compromising on security, they undoubtedly present a compelling solution. The real challenge for Governments? Finding innovative partners that can deliver tangible results, tackle specific border challenges and drive change with the minimum investment possible.

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Renaud Irminger is the CEO and co-founder of Travizory Border Security – a Swiss firm that facilitates seamless, secure digital border-crossing experiences for governments and travelers.

A seasoned Business Executive with over 25 years in travel and border security initiatives, Renaud has been instrumental in improving the air travel industry, bringing over 25 world premiere innovative solutions to the market. Under his leadership, he helped shape the IATA OneID initiative.

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## GET IN TOUCH

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