The Future of Border Management:
Maintaining security; facilitating prosperity

Part of a Public Safety, Justice & Security Series of Publications

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Foreword

Border management is one of the great challenges of our times. In an increasingly globalised world, how do governments maintain the security they need, while encouraging the trade they want? Economic prosperity relies on the free movement of goods and people, but if those flows are not monitored and controlled the result can be smuggling, trafficking and illegal migration; and with these come organised crime and terrorism. How can governments hope to reconcile these contradictions?

PwC has many years experience in supporting governments to establish effective border management systems and processes and we have close relationships with customs and border control agencies, immigration services, law enforcement and security agencies, as well as private bodies in many different countries. We also have our own Global Government Security Network, which has over 250 member in more than 50 countries.

Drawing on all this expertise, we believe it really is possible to combine resilient security with a modern and effective approach to border management that facilitates trade. We've identified four factors that characterise this approach, which we explore in this publication.

This publication includes an overview of some of the projects we have been involved in, as well as an introduction to our self-guided assessment process, by which we help border management leaders to identify opportunities to adapt and respond to an increasingly diverse threat landscape.

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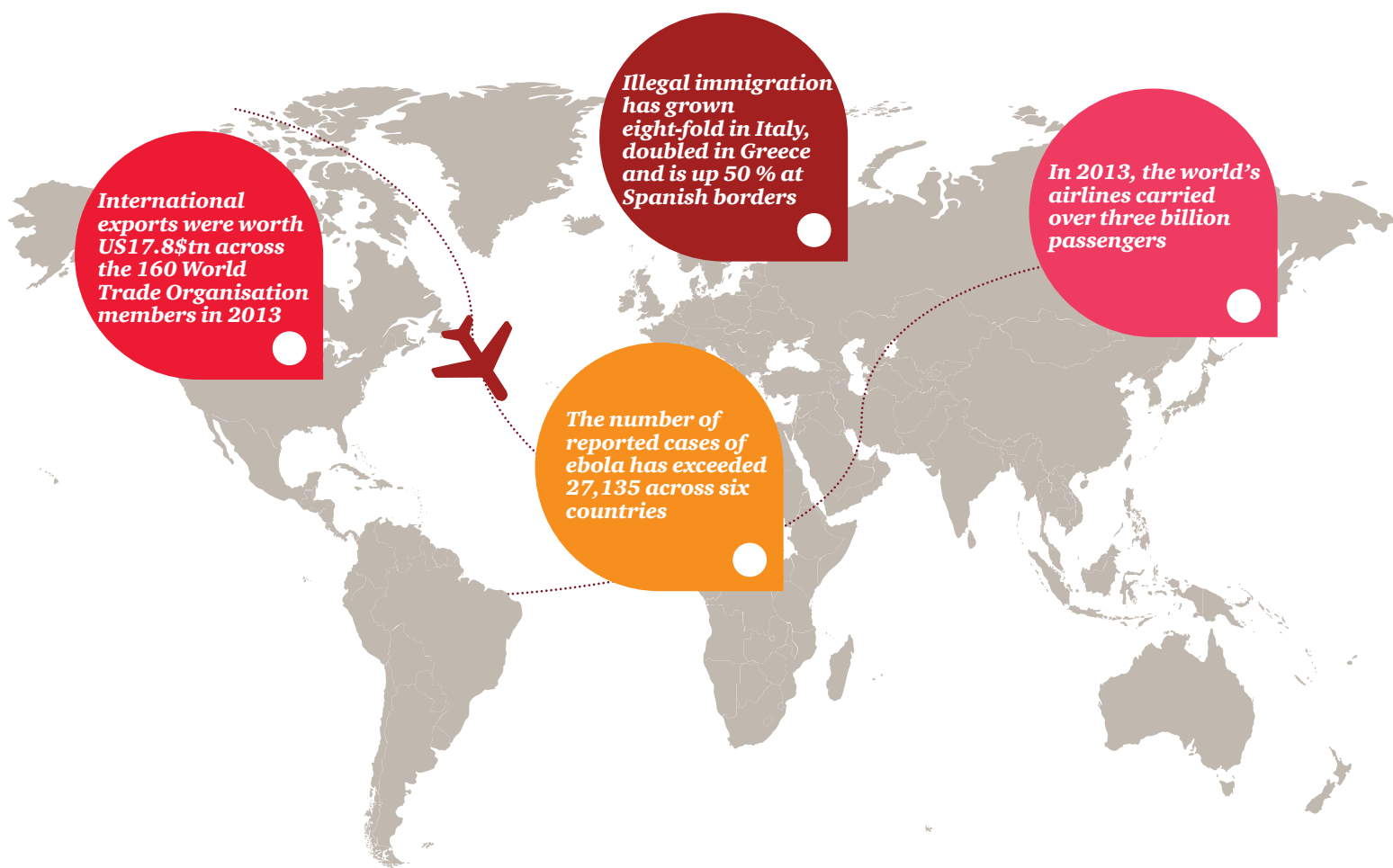Public Safety and Justice
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Introduction
A world without borders?

The world has never been smaller than it is today. Digital technology can make connections in real time across thousands of miles, allowing us to shop, work and interact internationally. Countries, businesses, organisations and people are more interconnected and interdependent than ever before. At the same time, we can travel more widely and cheaply than any previous generation and growing prosperity in developing countries is opening up the same possibilities to millions more.

The advantages are incontestable: more growth, more innovation and richer, more fulfilled lives. But there are downsides too. Mass migration is at unprecedented levels with more than 5.5 million people fleeing conflict in the Middle East in the first half of 2014 alone; terrorists and traffickers can exploit new technology and breach physical frontiers and diseases like Ebola are no respecters of border controls.

The challenges of border management

International exports were worth US17.8$tn across the 160 World Trade Organisation members in 2013

Illegal immigration has grown eight-fold in Italy, doubled in Greece and is up 50 % at Spanish borders

In 2013, the world's airlines carried over three billion passengers

The number of reported cases of ebola has exceeded 27,135 across six countries
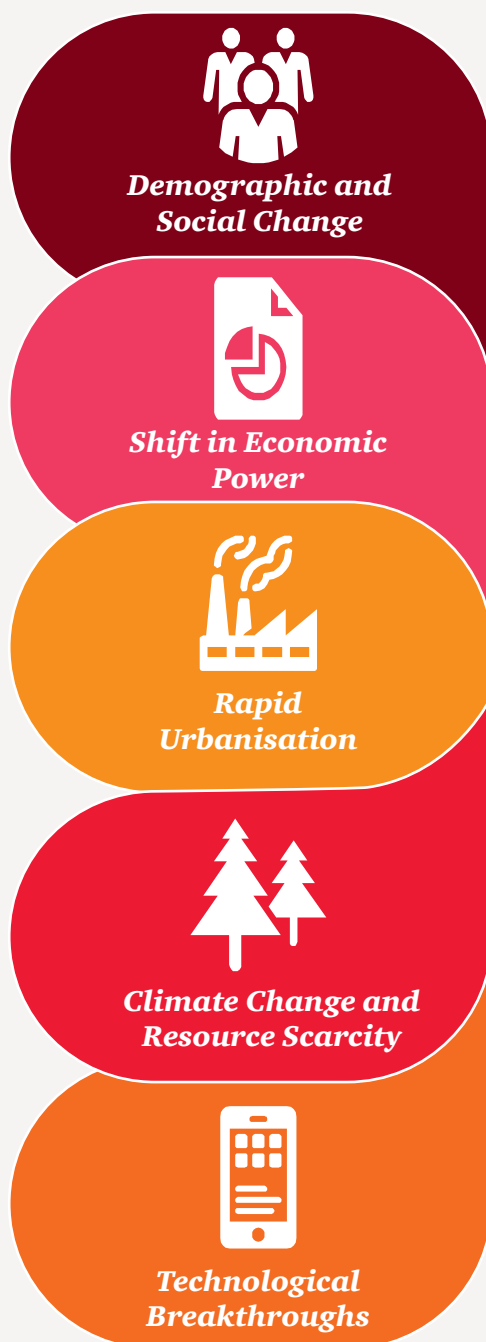
It all adds up to a world where the five global megatrends PwC has identified are combining to obliterate virtual borders and make physical ones more vulnerable than they have ever been.

The impact of PwC's 5 global megatrends

Demographic and Social Change

Shift in Economic Power

Rapid Urbanisation

Climate Change and Resource Scarcity

Technological Breakthroughs

Open Borders

- The border is more than the traditional border crossing points. It is a particular challenge for states with long and complex land borders (such as the US-Mexico or the Saudi Arabia-Iraq border) or in the maritime environment where a crossable body of water separates continents (such as the Mediterranean between North Africa and Europe).
- Impact: Open borders pose unique challenges for border agencies. Technology such as surveillance drones, infra red cameras and data led predictive patrolling will become increasingly important to Border agencies in protecting and monitoring borders

Increasing Mobility of People

- Globalisation is driving increasing volumes of travellers both legitimate and illegitimate.
- Increasing pressure is being put on border crossing infrastructure and the need to ensure secure transport hubs
- Impact: This is challenging governments to think about new ways to regulate travel in partnership with operators to effectively 'offshore' controls and to use technology solutions to track movements, secure identity and automate decision-making.

Trade

- The movement of goods and services in open market conditions has grown exponentially . As identified by the UN Conference on Trade and Development, international trade was valued at 23.2 trillion USD in 2013.
- Impact: Governments need to respond to increasingly evident challenges such as the smuggling of illicit goods.

Demand for Services

- Shifts in global power have resulted in very significant changes to patterns of demand for border agencies as economic growth drives a burgeoning middle-class in developing nations and increases export production.
- Impact: This creates new opportunities for the movement of people and goods, which in turn, are capable of being exploited by criminal enterprises.

The risks are self-evident and considerable, but the same factors that create these risks can also provide some of the answers. For example, the technological breakthroughs that make it easier for criminals to move data or illicit goods also give governments the tools that can deliver effective monitoring and surveillance of border activity.

Demographic and social change gives economies access to new sources of skilled labour but this needs to be actively managed.
The Canadian Visa Policy Framework is a good example of a government that has introduced clear criteria to guide the immigration process.

Snapshot: Canadian Visitor System

The Canadian visa system is designed to manage the migration process so that it promotes the country's interests while protecting the health, safety and security of its citizens.

The Visa Policy Framework provides a methodology for assessing country risks, ensuring that decisions to introduce a visa requirement for specified nationalities are taken on the basis of evidenced criteria.

The framework covers over 40 criteria, grouped into seven categories: socio-economic indicators, immigration issues, travel documents, border management, safety and security issues, human rights, and bilateral co-operation on removals.

There are nine indicators which apply to countries, and which are monitored on an ongoing basis. These include visa refusal rates, immigration violations, and the number of refugee claims made in Canada by foreign nationals.

For more information on the PwC global megatrends visit www.pwc.com/megatrends

A proactive and resilient approach

Given the complexities of the border landscape – virtual and physical – and the accelerating pace of change, what can governments do to optimise the way their frontiers are managed? PwC believes the best approach has four key features: innovative technology and infrastructure, effective international co-operation, coherent processes and an agile organisation. As the diagram shows, these four features are inter-dependent, and require robust performance indicators to ensure effectiveness, vigilance, and continuous improvement.
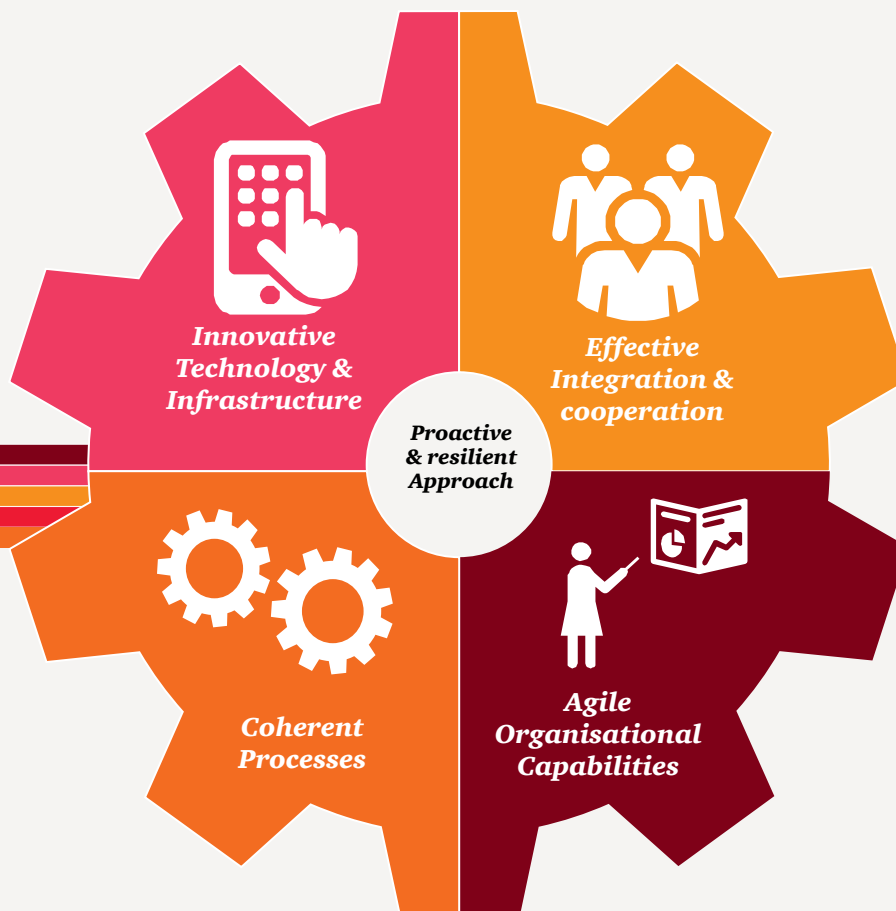
1. Innovative technology and infrastructure

As with so many other areas of government and business activity, digital technology has the potential to change the game in border management. We look at some of the latest developments below, in what border authorities do, but how they do it. From the processes used, to the way data is captured and risks assessed, to the speed of reaction to those risk assessments.

Four key areas of innovation in border management

1 **Data Analytics**

- Border agencies have started to collect data from multiple points rather than only from traditional sources such as visa applications and border crossing points. For example, travel companies and freight forwarders.
- Data analysis can now support national security by screening against watchlists or creating risk profiles that allow authorities to predict where to deploy resources and where to target their interventions.

2 **Verifying Identity**

- Individuals' identities have traditionally been verified by biographical information such as passports. But this data is only as accurate as the documentation presented, making identity fraud a key area of weakness for border management. This is leading to the introduction of new methods that use biometric data such as facial recognition, fingerprints, and iris scanning.
- This increased use of biometrics does not only signal a shift to more sophisticated technology but also to an approach to identification based on individual characteristics rather than on nationality.

3 **Monitoring & Surveillance**

- The integrity of the physical frontier remains critical, particularly in areas with long land or sea borders.
- These vulnerable frontiers can be enhanced by using technological innovations such as infrared sensors, heat-sensing cameras, unmanned ariel vehicles, and radar and satellite surveillance. Countries are also co-operating along shared borders to increase the breadth of coverage.

4 **Non-Invasive Inspection (NII)**

- Technical systems such as X-ray or gamma-ray imaging equipment allow the inspection of cargo without needing to open it, which saves time and money. This is especially important given the rising volumes of trade and the static or declining levels of border staff.
- NII has also been applied in the detection of concealed weapons and drugs, illicit radiological material, and in the interception of smuggled people.
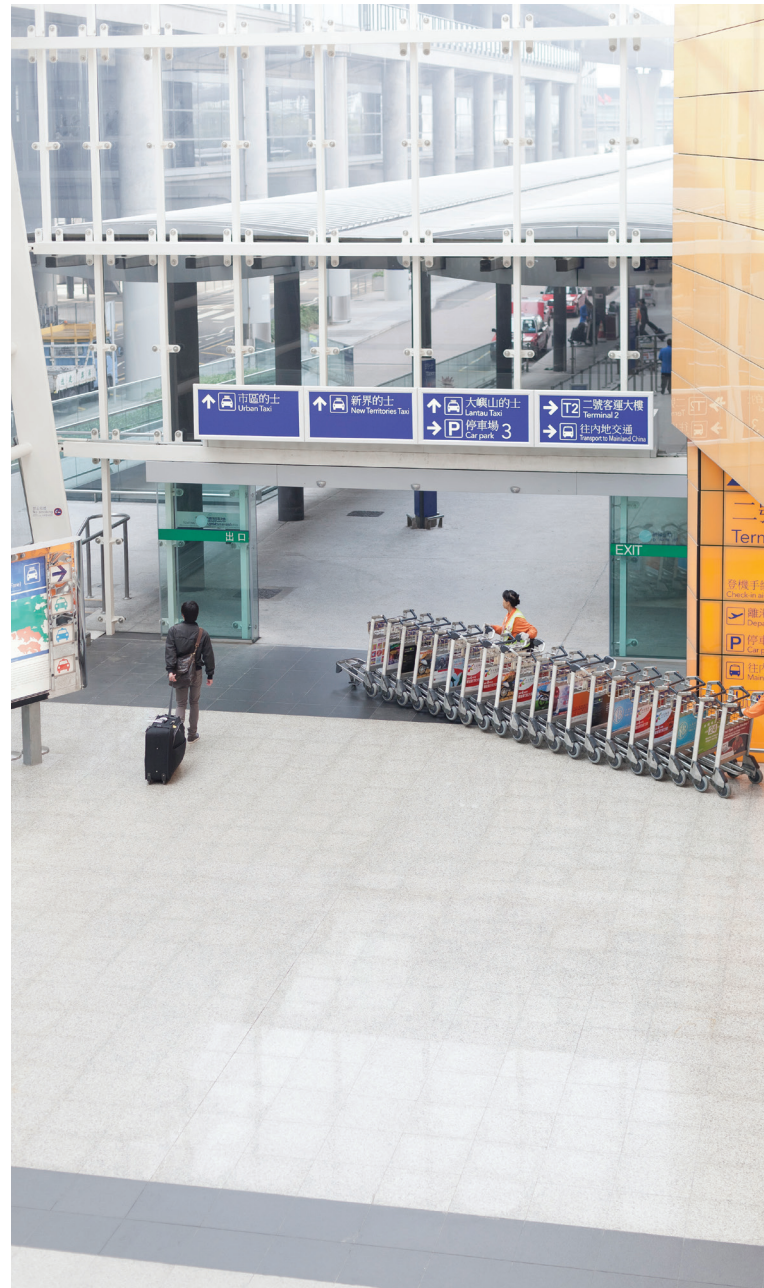
The EU is currently exploring various options to modernize and improve security for the external borders of the Schengen area. This 'Smart Borders Package' includes a new Entry/Exit System (EES) and a Registered Traveller Programme (RTP). The EES will electronically record travellers' time and place of entry and exit to the Schengen area, and the RTP will allow pre-enrolled and frequent travelers to make use of simplified border checks.

Both systems will make more use of automated verification and identification methods, based on biometric data such as fingerprints, facial image and iris recognition. Various different options are being tested at 17 different border crossing points in 12 member states during 2015, with a view to full implementation by 2020.

PwC took part in the technical study which identified and assessed the most suitable and promising options, which are now part of the pilot programme.

2. *Effective integration and co-operation*

The old adage that a chain is only as strong as its weakest link is particularly apt when it comes to border management. And that weak link can often occur at the point where border authorities intersect and especially in maritime situations, such as the Mediterranean, where attempted mass migrations have become such an enormous problem.

There are other reasons why effective co-operation is so vital. The biggest security problems are simply beyond the capacity of single countries to resolve unilaterally, however powerful they are - terrorism, arms control, and drug and people trafficking are obvious examples. It's also better to approach issues like free trade agreements and visa regulations on a multilateral rather than bilateral basis - and regular governmental contact can help keep systems up-to-date and fit for purpose.

Global border management approach efforts need to be integrated
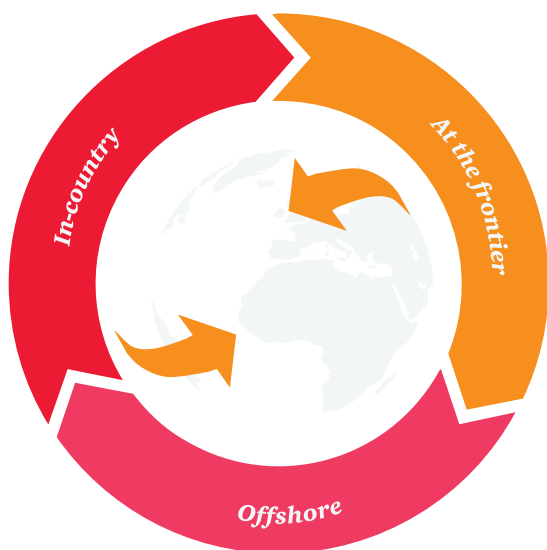
In many countries, political responsibility for setting border security strategy and infrastructure is under the Ministry responsible for Interior Affairs. Others have moved towards single departmental ownership of the challenges posed by border security, considering this more effective than the traditional three-way split between Foreign Affairs (visas), Interior (immigration) and Treasury (customs). This can ensure proper joined-up thinking, common priorities, operational efficiency and effective knowledge sharing.

Three areas to consider for border management agencies

Are the separate responsibilities clear and easily measured?

Any successful consolidation relies on clarity of roles and the effective monitoring of implementation and objectives. The management of intelligence across agencies and departments is an example of the importance of cross-agency coordination.

How many organisations are involved?

Many organisations contribute to border management processes. Any plans for consolidation should be incremental, starting with those that have the most immediate impact Many jurisdictions have, for example, looked to consolidate immigration and customs functions into a Border Force model.

Responsibility

Co-ordination

Complexity

Effective Integration & Cooperation
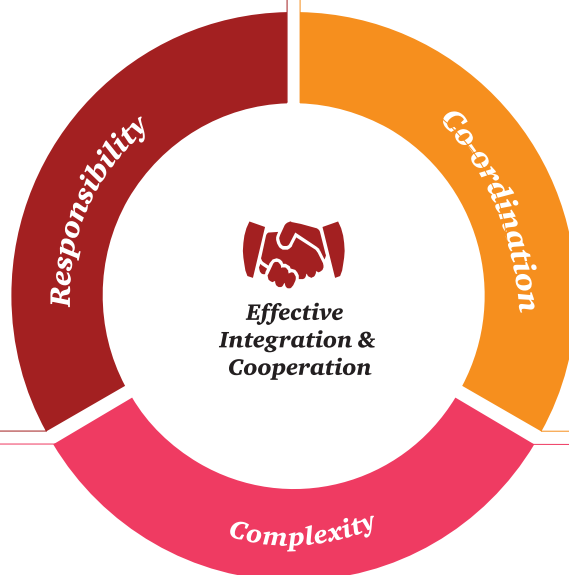
Are the desired outcomes clear?

The single most important consideration in any co-operation is a shared understanding of what it is intended to achieve and how each party contributes to it.
Which tasks contribute to security and which contribute to smooth and timely handling of entry?

Snapshot: The Australian Border Force

The Australian Government recently announced changes to its immigration and border protection arrangements.

From 1 July 2015, the Department of Immigration and Border Protection and the Australian Customs and Border Protection Service will be consolidated into a single Department of Immigration and Border Protection. An Australian Border Force will then be established within the department, as a single frontline operational border agency. This will bring together the operational border, investigations, compliance, detention and enforcement functions of the two previous agencies. It is anticipated that these changes will enable improved integration and cooperation amongst border officials, ultimately enhancing the protection provided to Australia and its citizens.

3. Coherent processes

Every effective organization or function uses a process model that ensures coherence between strategic decision-making, operations, and support.

These components are leading practice for any process model, but they are particularly important in a function as complex as border management, tasked with reconciling the apparently contradictory tasks of facilitating entry and preventing threats

The three key functions of a coherent process model

Strategy, evaluation and governance
- Strategy and capability development
- Change management
- Performance management
- Co-operation
- Security and compliance

Operations processes
- Command and control/governance
- Planning and Prevention
- Investigation
- Information Analysis
- Execution (operational units and departments)

Enabling functions
- Logistics
- Infrastructure
- ICT
- HR, training and education, Procurement and finance
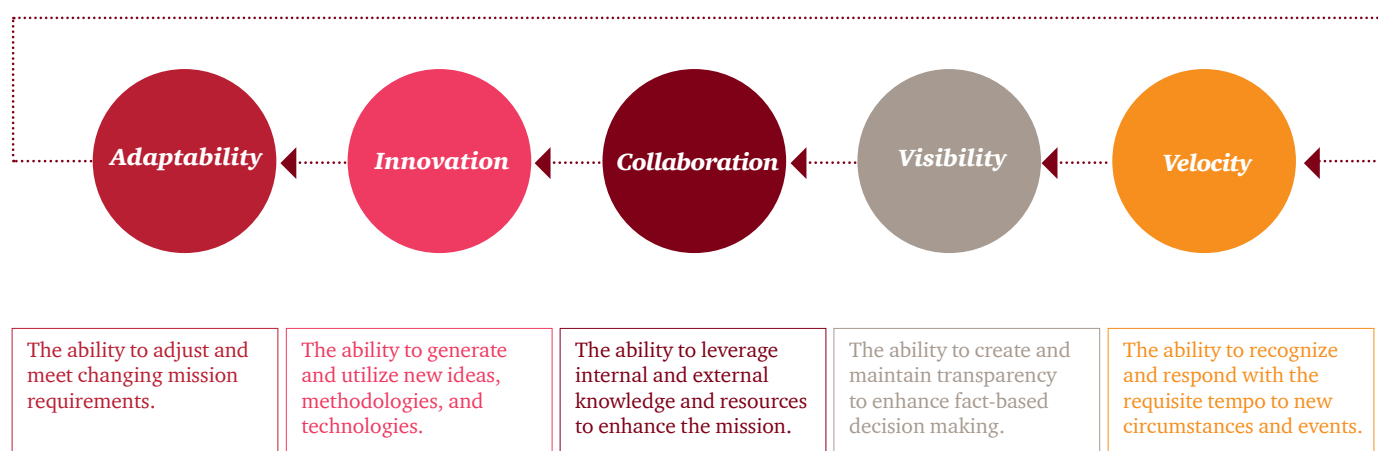- External communications
- Legal support

4. Agile organisational capabilities

In recent years, border management policy and practice have often worked reactively, as governments struggled to respond to events, emerging threats, and the growing demand for services.

These demands can only increase as more people travel and more goods are traded and the type of threats become more diverse. Border organisations need to be agile and flexible if they are going to provide effective and resilient security against these threats.

In our Agile Defense publication we defined agility as perpetual awareness and the ability to be decisive and take action in an expedient and well-coordinated manner, identifying five characteristics of an agile organization. We identify these characteristics "threads" because of how they should weave their way through the key processes of an organization in a complimentary fashion. In agile organizations, threads function to produce highly effective actions that anticipate and mitigate a broad range of tactical and strategic challenges.

The Five Characteristic Threads of Agility

Adaptability	Innovation	Collaboration	Visibility	Velocity
The ability to adjust and meet changing mission requirements.	The ability to generate and utilize new ideas, methodologies, and technologies.	The ability to leverage internal and external knowledge and resources to enhance the mission.	The ability to create and maintain transparency to enhance fact-based decision making.	The ability to recognize and respond with the requisite tempo to new circumstances and events.

Snapshot: A Middle Eastern border guard

Faced with growing threats and the need to protect both land and sea frontiers, PwC helped one border guard organisation in the Middle East embark on a full-scale organisational transformation. The aim was a fully integrated operation, co-operating internationally and benefiting from the latest technological advances.

PwC performed extensive analyses of the security force's internal and external environment, coordinating the participation of hundreds of staff and international experts. Through developing a new operating model and fully-fledged strategy supported by comprehensive change management programme, we ensured critical alignment between technological and organisational transformation efforts.

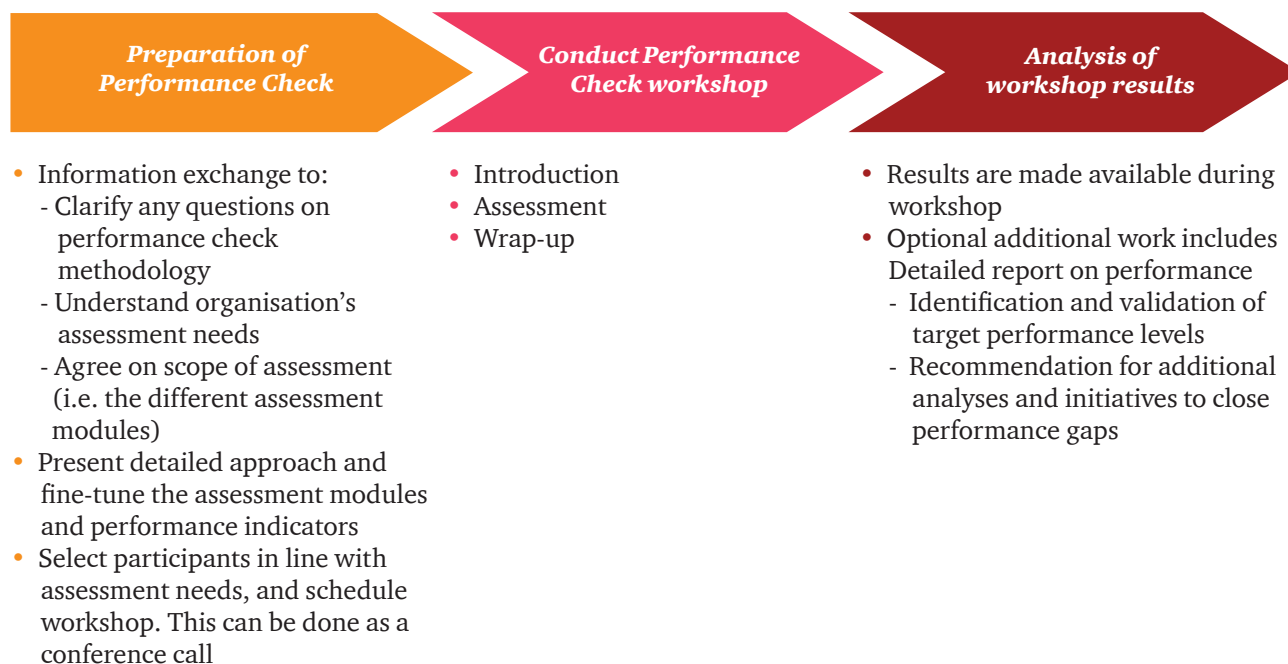For the full Agile Defence Report please visit:
http://www.pwc.com/gx/en/psrc/global/agile-defence.jhtml

How PwC can help

Although border management arrangements are, by necessity, complex and vary across jurisdictions, we have a wide breadth of experience helping border authorities improve their efficiency and sharpen their security. We do this by supporting them to achieve the four success factors we've identified in this document: innovative technology and infrastructure, effective international co-operation, coherent processes and an agile organisation.

The process begins with 'PwC's self-guided border management assessment'. This is a basic performance check, helping organisations understand where improvements can be made and assessing their preparedness to deal with the threats now emerging.

PwC Performance Check approach

Preparation of Performance Check	*Conduct Performance Check workshop*	*Analysis of workshop results*

- Information exchange to:
  - Clarify any questions on performance check methodology
  - Understand organisation's assessment needs
  - Agree on scope of assessment (i.e. the different assessment modules)
- Present detailed approach and fine-tune the assessment modules and performance indicators
- Select participants in line with assessment needs, and schedule workshop. This can be done as a conference call

- Introduction
- Assessment
- Wrap-up

- Results are made available during workshop
- Optional additional work includes Detailed report on performance
  - Identification and validation of target performance levels
  - Recommendation for additional analyses and initiatives to close performance gaps

Case studies

We've helped clients worldwide to analyse and strengthen their border management approach. We've combined multiple disciplines and areas of expertise to provide tailored services to respond to their unique requirements. In recent years, we've broadened our services to include national biometric systems, organisational transformation for security forces and the extensive updating of financial systems.

United States

PwC supported a United States Federal Government Agency to plan for an initiate a multi-year effort to modernise their trade-related revenue processes, including collections and reporting and replace outdated financial systems. The first phase of the modernisation effort was included in the 2016 budget and is pending approval.

Key project highlights included developing current and future state process maps and executive-level briefings to outline the project plans, the resources required, and the anticipated outcomes and benefits.

PwC also supported development of the business case to centralise and digitise the Agency's bond programme, which was implemented in 2015. This should save money, facilitate trade, and improve collections by reducing protests, write-offs, and rejections. The longer-term Revenue modernisation effort is expected to simplify the way the Agency conducts business with its customers, enabling our client to improve the flow of trade and travel, maximize revenue collections, reduce transaction costs, reallocate frontline resources to security functions and expand access to electronic payment technology to make financial exchanges easier, safer, and more convenient for the Trade/Travel communities.

Aruba

PwC assisted Immigration Aruba to upgrade their existing border control management systems.

Specific achievements by PwC, together with third party vendor Gamma IT Solutions, included a turnkey state-of-the-art Border Control Management System, including biometric technologies and modern RFID passport scanners, a maintainable and manageable signaling registry and the training of system users.

The system also provides extensive, real-time information relating to tourism. The government now knows exactly how many tourists are on the island at any given time, where they are staying, and how long they have stayed, which is invaluable to the country's tourism authority.

Australia

PwC worked for the Australian Federal Agency responsible for the national biometrics system used by law enforcement agencies including the police and border protection. We helped them understand stakeholders' issues and concerns with the current system, how biometric technology is changing, and the implications of any new system on the agency's business processes.

We presented various implementation options based on industry best practices, and then supported the Agency in developing a business case for the future system whilst explaining the rationale to stakeholders. Key highlights included: an assessment of the current biometrics market and future technology, and a business process review to identify future opportunities.

The envisioned end state will result in a national biometric system which is fully integrated with law enforcement and border protection agencies' systems in a responsive manner for solving crimes and national security incidents.

European Union

PwC provided the European Commission with a technical feasibility study assessing different biometric systems, including fingerprints, facial recognition, and iris scanning.

The study also covered the design of border control processes and the viability of process accelerators such as self-service kiosks. We also looked at the IT architecture options for two systems and possible synergies with existing ones.

The project involved the active participation of 30 member states, EU-LISA, FRONTEX, the European Parliament and various biometric vendors. Following the study, we supported EU-LISA with a pilot phase, which is assessing the different biometrics options in real-life situations at EU external borders.

Points of contact

This publication was developed by the PwC Middle East firm, with valuable contributions from Graeme Kyle, an associate and Border Management expert, PwC The Netherlands and PwC Strategy&. Global insights were brought together through our Global Government Security Network and its key-participants.

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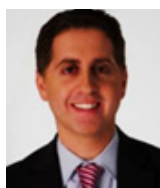Mobile: +971 56 6820 527
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