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MRTD REPORT

THE NEXT STEPS

With mature Standards and specifications now in place, the MRTD Community places renewed focus on helping States to leverage maximum security and mobility benefits through improved implementation and capacity-buiding efforts

IN THIS ISSUE:

Charlie Stevens on the Impostors Challenge
David Philp Lays Out a Course for the ICBWG
European External Border Cooperation
ICAO, the ISO and the Origins of Doc 9303

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Mr. R. Tysoe	Australia	Mr. J. Verschuren	Netherlands
Mr. G. K. McDonald	Canada	Ms. A. Offenberger	New Zealand
Ms. M. Cabello	Chile	Ms. I.O. Sosina	Nigeria
Mr. M. Vacek	Czech Republic	Mr. Y. Xuefeng	People's Republic of China
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Mr. J. Nugent	Ireland	Mr. R. Vanek	Switzerland
Mr. H. Shimizu	Japan	Mrs. K. Mitchinson	United Kingdom
		Mr. M. Holly	United States

The TAG/MRTD is appointed by the Secretariat, which reports on its progress to the Air Transport Committee.

The TAG/MRTD develops specifications for machine readable passports, visas and official travel documents, electronic machine readable travel documents and guidance material to assist States in implementing these specifications and exploiting modern techniques in inspection systems

Observer organizations

Airports Council International (ACI)
European Union (EU)
International Air Transport Association (IATA)
International Criminal Police Organization (INTERPOL)
International Labour Organization (ILO)
International Organization for Standardization (ISO)
Organization for Security and Cooperation in Europe (OSCE)
International Organization for Migration (IOM)
United Nations (UN)
Organization of American States (OAS) - Inter-American Committee on Terrorism (CICTE)

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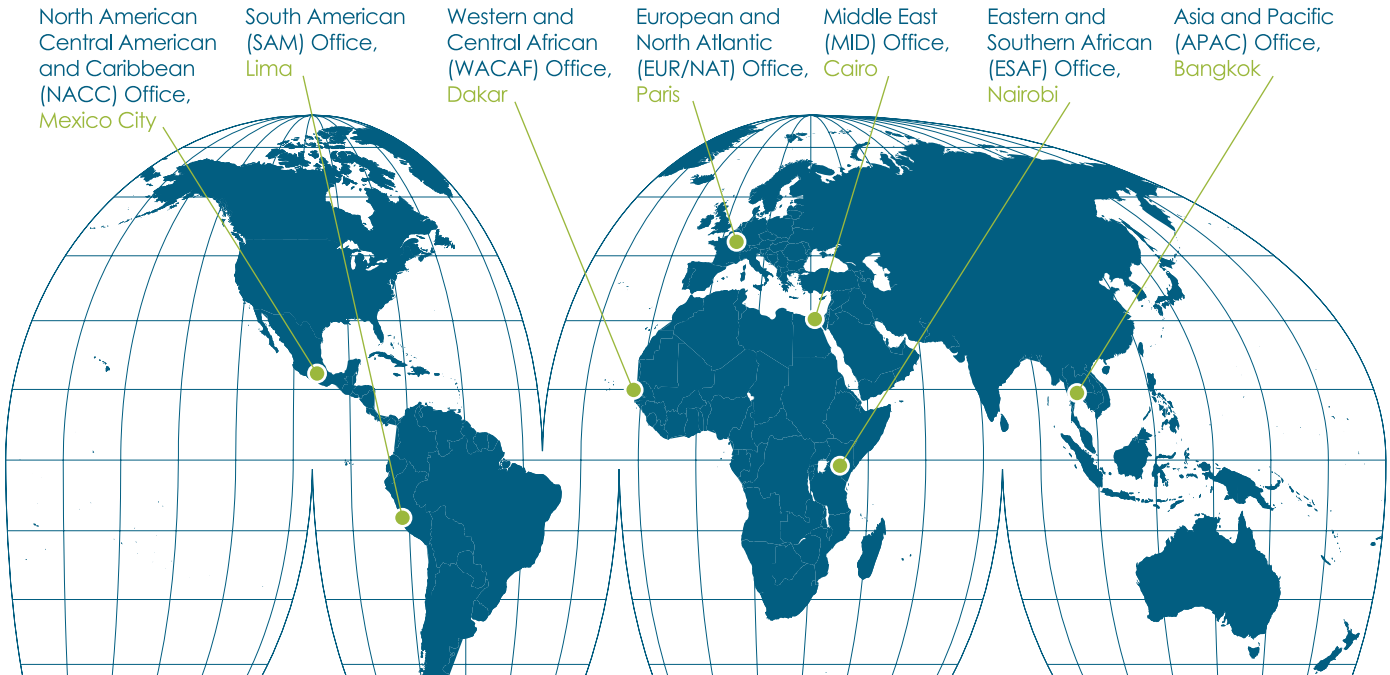


Reaching Out to States: When Setting Standards and Specifications is Not Enough

This issue highlights several important points as the MRTD community continues to make excellent progress providing States and passengers with an efficient, practical, convenient and secure international mobility and identity regime in line with 21st century travel patterns and social progress.

More than anything this issue highlights for our community the need today to bring not only Standards and specifications to bear on border, identity and mobility issues, but also the training and knowledge to employ these tools to maximize their potential.

Input from two of the more historically significant contributors to ICAO's MRTD programme, Rod Heitmeyer and René Pouliot, highlights on pages 34–38 the excellent work achieved during the 1980s to establish the original specifications, organizational structures and working relationships that underpin all of our efforts today.

It's perhaps noteworthy that in this context that Charlie Stevens piece on the persistent threat of fraud due to impostors on page 4 stresses the ongoing need for well-trained frontline personnel, a point which makes us all pause to recall that the success we have seen in the area of passenger mobility and border control relies on well-trained and effective people as well as the latest technologies.

Of particular importance to us all today as we embark on our Seventh MRTD Symposium, are the comments and ideas put forward by David Philp, Chairman of the Technical Advisory Group on MRTDs (TAG/MRTD) Implementation and Capacity-Building Working Group (ICBWG) on pages 12–23.

ICAO has the mandate, under the 1944 Convention on International Civil Aviation, to maintain and promote Standards and Recommended Practices (SARPs) related to the issuance of machine-readable travel documents, as outlined in the Convention's Annex 9 and ICAO Document 9303. Given today's global security environment and rapidly-evolving travel document security standards, a number of States have been lacking technical expertise or resources to implement stringent norms and technology in their identity document management, creating security vulnerabilities.

The current MRTD and e-MRTD specifications are state-of-the-art and up to the standards of the most developed States. But given the complexity of the specifications, there have been demonstrated constraints in less developed States that struggle to implement such complex requirements because of their lack of technical expertise, or funds, or both.

These capacity gaps have been compromising universal MRTD implementation and call for a closer technical dialogue with States in need, intensified liaison with donor agencies and significantly expanded capacity-building programmes. ICAO is currently exploring ways to better help States build their MRTD and e-MRTD implementation capacity.

The state of play in travel document integrity and security suggests that setting normative Standards and enforcing them, important as it is, is not sufficient. As part of its global efforts, the ICAO Technical Co-operation Bureau (TCB) and the TAG/MRTD's ICBWG have been taking proactive steps to further engage States in need of assistance, the donor community and other partner international agencies in tackling today's identity management and border control challenges in a concerted and cooperative manner.

In fact, ICAO is currently assisting several States around the globe to assess and implement e-Government, e-Passport and e-Border technology through its Technical Co-operation Bureau.

We invite States requiring assistance in these areas of expertise to contact the ICAO Technical Co-operation Bureau and begin to explore the options and assistance available to them (for more information please visit the MRTD Programme web site at **mrtd.icao.int**).

Finally, this issue of the MRTD Report is being distributed during the 20th Meeting of the TAG/MRTD and the Seventh MRTD Symposium. For those visiting Montreal and participating in these events, please accept our warmest welcome and enjoy the events. ■

Impostors

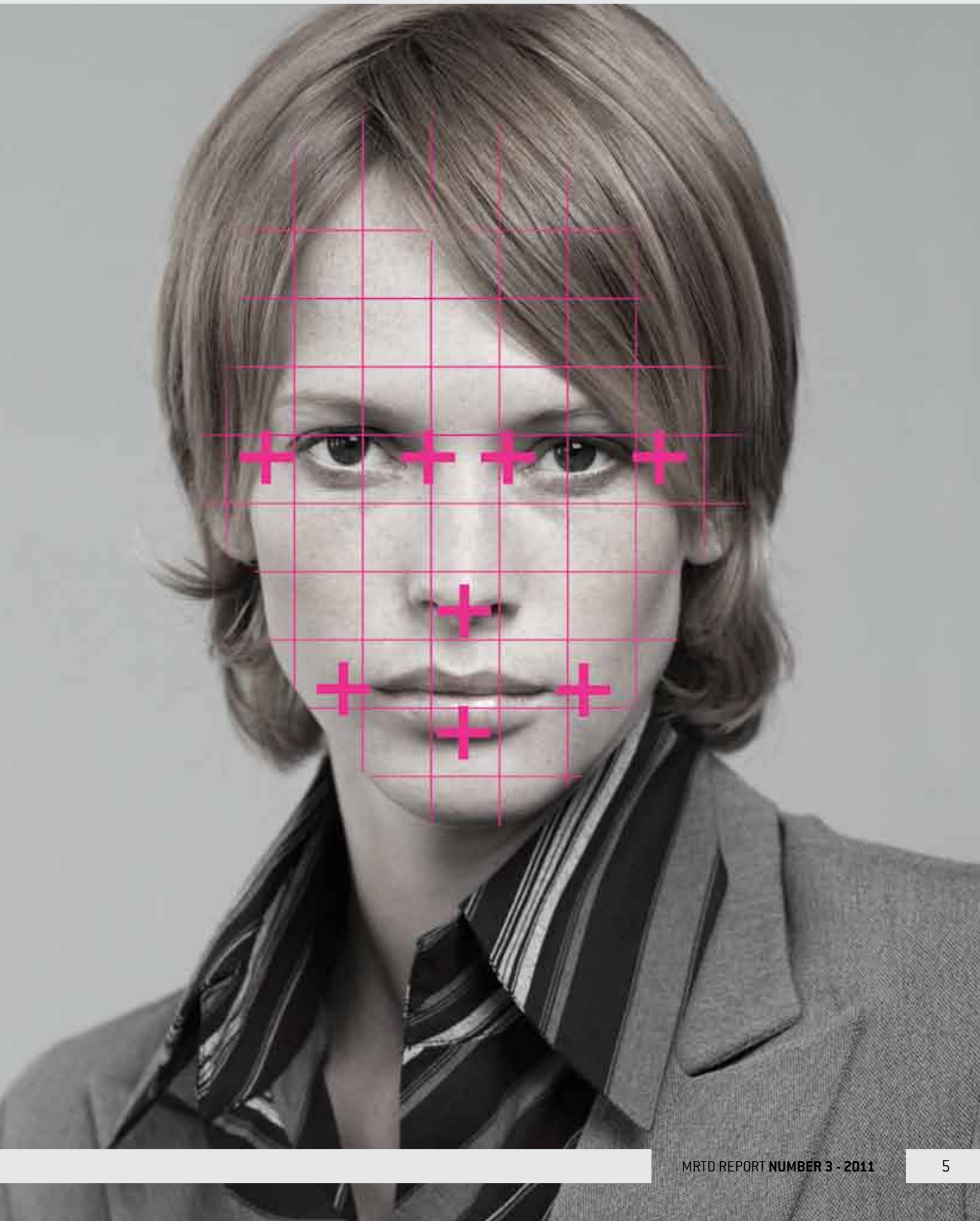
Identity Fraud without Document Alteration

2005 statistics from the United Kingdom reveal that impostors accounted for 24 percent of all cases of travel document abuse detected at the border that year. By 2009, that figure had almost doubled.

As Charlie Stevens, former Head of the UK National Document Fraud Unit reports, similar increases in other countries indicate that this is clearly not a problem confined to the UK. The ongoing threat posed by impostors is currently one of the fastest growing and most serious methods of fraud involving Machine Readable Travel Documents (MRTDs).

Impersonation, or the use of documents by look-alikes/impostors, is one of the simplest methods of passport fraud. An impersonator will simply attempt to pass inspection by presenting a genuine, unaltered document issued to somebody else and then pretending to be that person.

The problem with this type of fraud is that it is difficult to detect and requires a high level of skill and professionalism in examining officers. In situations where a traveller is held but their document has *not* been altered, the examining officer in question risks facing legal action for wrongful arrest and detention if they cannot produce adequate evidence that the person presenting the document is not the rightful holder.



Charlie Stevens is the former Head of the United Kingdom National Document Fraud Unit. He worked for nearly 40 years for the United Kingdom Border Agency (UKBA), formerly the UK Immigration Service. Stevens' work encompassed many government projects, both in the UK and internationally, including representing the UK at the G8 Migration Experts Working Group, the EU False Documents Working Party and the EC Article 6 Committee. For 11 years he was the UK technical advisor to the ICAO New Technologies Working Group, assisting in the formulation of specifications for Document 9303 on MRTDs and e-MRTDs.

Impostors at the Document Application and Issuing Stage

It must also be strongly considered that the problem of impostors is NOT confined solely to the presentation of MRTDs at border crossings or other security control points. The threat posed as a result of identity theft, whereby an individual makes a bogus application for an MRTD while assuming the identity of a genuine citizen, represents the most serious threat of all.

Successful impersonation at the document issuing stage enables the impostor to fraudulently obtain a document that then actually contains his or her biometrics data, which will be impossible to detect even by biometrics verification.

It is important, therefore, that personnel dealing with document applications are thorough in their duties and approaches. This is particularly so in the case of first time applications, where personal interviews are conducted with applicants and all required documentation in support of the application (often referred to as *breeder documents*) is carefully scrutinized and verified.

If an impostor can obtain a document through a fraudulent application, their fraud will only be successfully detected at control points by access to and the effective use of intelligence data. Alternately, the professional skills of highly trained and experienced control staff, when determining that the person presenting the document does not match the profile given by the document, can also prove effective. In these latter instances, for example, the holder can be demonstrated not to be a national of the country issuing the MRTD.

The increasing use of MRTDs in recent years by States and the willingness of countries to use more sophisticated and varied high-quality security features in their documents, as recommended by ICAO, have presented serious challenges to forgers and counterfeiters. This has been recognized by many of the organized criminal groups which are responsible for the vast majority of document fraud. It has encouraged them to move towards the use of genuine documents by impostors—as a cheaper and lower-risk alternative to high cost forgery factories using expensive skilled forgers and high-tech printing and IT equipment.

Criteria for Impostor-preferred Documents

The documents used by impostors need to satisfy a number of criteria. Firstly, the document used must match the profile of the customer using it, i.e. the original holder should be of the same sex, appearance and age as the impostor.

In the United Kingdom there were a number of major cases detected by the police where organized crime members were targeting burglaries at residential properties where it was known that persons were living who owned passports (or other travel or identity documents) that matched the profiles of the intended eventual impostors.

Secondly, the document must be suitable for the purpose required by the impostor—it must be of a nationality and format type to enable the impostor to pass through the control point without raising undue suspicion.

Most impostor-favoured documents are those that are readily accepted in the destination State without undue scrutiny and, most importantly, without the necessity of the document holder being required to obtain a visa prior to travel. This is why, in the case of the UK for example, other EU Member States' documents are so attractive. The impostor will hope that the supposed 'lighter touch' control afforded to Member States' citizens, because of their freedom of movement rights within the EU, will make passage through the required border controls easier.

"It must also be strongly considered that the problem of impostors is NOT confined solely to the presentation of MRTDs at border crossings or other security control points. The threat posed as a result of identity theft, whereby an individual makes a bogus application for an MRTD while assuming the identity of a genuine citizen, represents the most serious threat of all."

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In the final case we come to documents that might be passed on from one family member to another. If one sibling has managed to gain immigration status or citizenship in the desired destination State, that person's documents could be sold or passed on to another, similar looking family member.

In a situation such as this, a person allowing their document to be used by another will invariably not declare the document to be lost or stolen until after the illegal impostor has travelled and gained entry into the target destination. As a result, the misused document will not appear in time on any lost or stolen database for it to be intercepted.

Biometric e-MRTDs

The main driver behind ICAO embarking on its programme for the development of international Standards governing the use of biometrics in e-Passports was the clearly identified need to verify the identity displayed in an MRTD with the person presenting it.

The e-Passport programme is a continuing success in this regard, with more and more States embracing the ICAO biometric Standards in their passports and other travel and identity documents. This bodes well for the future but it will take many more years in all likelihood before all States are issuing e-Passports and before e-Passports are the only documents likely to be presented at control points globally.

Equally frustrating is the fact that it will probably be longer still before every document checking control point worldwide is fully equipped with readers capable of biometrically verifying the identity of every traveller on a one-to one basis via an e-Passport. It follows then that the continuing need for highly skilled and professional examining officers, with the ability to detect impostors through personal examination, is going to persist for the foreseeable future.

Routine checking of document databases

Given the difficulties in detecting impostors, it is important that all technical assistance that is available is utilized. MRTDs, through the MRZ, enable warning lists to be checked within seconds at the start of a border control examination. I have already warned that many impostors will try and use documents that have not been reported lost or stolen, but many documents that are used by impostors will be on warning databases such as the Interpol database of lost and stolen documents. It is vital, therefore, that States secure access to such databases at the frontline control if any document fraud, let alone the threat posed by impostors, is to be tackled.

DETECTING IMPOSTORS

There are a number of checks that a well-trained, well-equipped and fully-aware border control officer should routinely conduct in order to better identify a potential impostor:

- If the document is a biometric e-Passport and an appropriate reader is available, conduct a complete one-to-one biometrics verification.
- Check the document's number and nationality against available databases for any warning information.
- Carefully compare the photograph or image in the document to the person presenting it.
- Check the age, height, visible marks and signature of the document holder against the biographical details held in the document.
- Check the displayed shapes and positions of the face, chin, lips, eyes and nose in the document to the person presenting it.
- Speak to the document holder in the language of the passport nationality and test for knowledge of the document issuing State.
- Observe the person presenting the document for suspicious signs, such as undue nervousness, sweating or failure to make eye contact.

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FACE TO FACE

A careful facial comparison between the document image and the person presenting it, following a systematic process of dividing the face into separate areas for comparison and then comparing the location of each facial feature, can be carried out in a matter of seconds while asking the passenger a few basic and unthreatening questions.

Front line database checks of intelligence watch lists are also useful tools for picking up impostors whose travel details might have been detected and circulated by fraud investigating officers. Also, where biometrics records are available to control authorities (as they are now in the United States, for instance), front line biometrics checks can reveal possible impostors.

Simple Visual Verification

Comparing the photograph contained in the document with the document holder might seem to be the most obvious and basic function that an examining officer should perform. It is, however, all too easy for a control officer, often working under extreme pressure and with large numbers of passengers arriving and multiple

THE EYES HAVE IT

The ability of companies and individuals to manufacture more and more life-like latex masks, such as the model above from D.H of Holland, points to why human staffers at airline boarding and customs checkpoints still have an important role to play in detecting the subtler methods of concealment available to 21st century impostors.

The continuing need for well-trained and alert frontline personnel to detect impostors was made especially evident in early 2010, when a man boarded an Air Canada flight elaborately disguised under a micro-latex mask as an elderly white male (inset). According to airline reports he was only intercepted after he was noticed entering a toilet facility as the older Caucasian male only to then magically emerge as a young Asian.

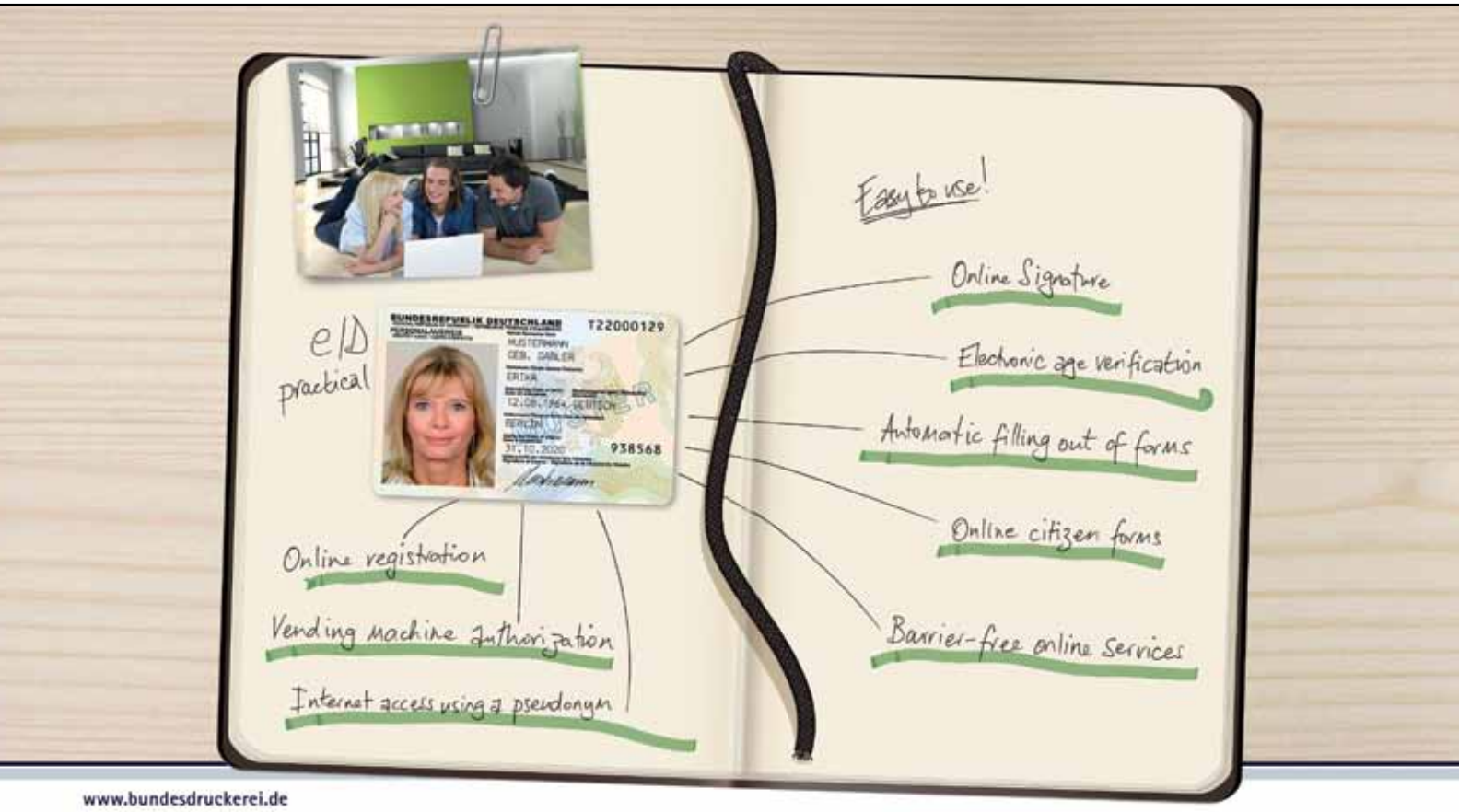
machine checks to undertake, to overlook the most obvious task of properly comparing the image in the document with the person presenting it.

It is essential in training that the need to perform this basic operation carefully and competently is properly understood. Similarly, control supervisors must always monitor their staff to ensure that this is being done correctly.

A careful facial comparison between the document image and the person presenting it, following a systematic process of dividing the face into separate areas for comparison and then comparing the location of each facial feature, can be carried out in a matter of seconds while asking the passenger a few basic and unthreatening questions.

These initial questions can, in themselves, also help to determine whether the passenger matches the profile displayed by the biographical data and nationality displayed in their MRTD, as well as on the landing card that invariablywill have been completed.

Whenever the officer does not compare the image with the passenger, very simply impostors will not be identified. ■



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Participation & Progress

Since 2008, the ICAO Implementation and Capacity-Building Working Group (ICBWG) has worked toward six outcomes in support of ICAO's Strategic Objective of 'Enhancing global civil aviation security'. By pursuing these outcomes and encouraging increased implementation globally of the Standards and recommendations in Doc 9303, including participation in the Organization's Public Key Directory, the ICBWG continues to succeed in matching State needs with appropriate solutions while significantly improving related levels of Member State capacity, knowledge and their awareness of the ICAO resources available to assist them.

ICBWG Chairman, David Philp, spoke with the *MRTD Report* recently regarding his Group's accomplishments and challenges, and of the invaluable experience and international respect that States can expect to acquire through increased participation in bodies such as ICAO.

ICAO *MRTD Report*: Describe today's ICBWG briefly if you would, outlining its current structure and objectives.

David Philp: The ICBWG is in its third year of operation and is made up of a cross-section of stakeholders with a shared interest in implementing more secure travel documents and identity issuance systems on a global basis.

Its members are made up of industry and government officials, including vendors, as well as individuals from other international organizations, law enforcement agencies and the ISO (*see full participant list p. 16*). The Group reports directly to the ICAO Technical Advisory Group - Machine Readable Travel Documents (TAG-MRTD).

The ICBWG works presently towards six outcomes which support ICAO's Strategic Objective of 'Enhancing global civil aviation security'. These are all generally aimed toward supporting the increased implementation by States of ICAO MRTD Standards and Recommended Practices (SARPs), including bolstering State participation in the ICAO Public Key Directory.

Additionally, the six outcomes seek to improve general levels of MRTD capacity and expertise in all ICAO Member States, and to raise awareness of related resources available from ICAO to assist them. The Group is also responsible for keeping ICAO as up-to-date as possible on the degree to which States have adopted and/or implemented the Organizations guidance and document specifications in this area.

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The MRTD Programme has been an unequivocal success with respect to improving the mobility, security and overall passenger enjoyment of the world's international travellers. In this first year following the successful passing of the 2010 global implementation deadline, why should the Organization now be now so concerned with ongoing State assistance projects and related capacity-building efforts?

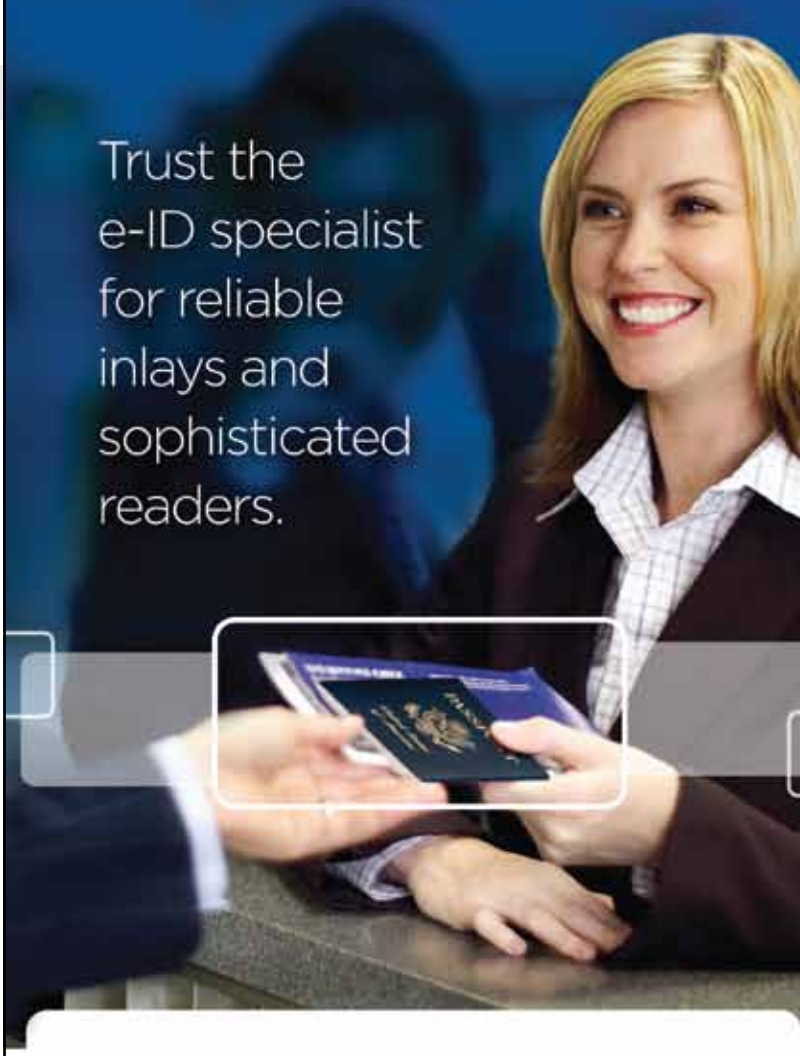
Without a doubt, ICAO has done a very good job of developing quite sophisticated MRTD Standards and specifications. The difficulty for many countries, however, is that reading a specification and actually applying its advice and guidance can be very different things. A State may know that there's a Standard in place but, even when they do, they often have difficulty interpreting it because these are very technical documents.

This is particularly the case when developing an e-Passport rather than the more basic Machine Readable Passport (MRP). We see evidence from all over the world that States don't understand these Standards, mainly by virtue of the fact that, at the end of the day, certain countries are still not producing compliant documents. Approximately 100 countries are now issuing e-Passports but I'd be surprised if more than 50 percent of those documents were actually fully compliant with the ICAO Standards.

How do the ICBWG and the Organization help to address this?

The real challenge is communication. Education not only around which Standards are to be applied in what instances, but also what they mean, what the outcomes are and what States need to do to make sure that they've got issuance and other related processes in place that properly support the Standards over the longer term. There is currently no formal process that a State can use to ensure it is issuing a compliant document.

David Philp is General Manager Passports, Service Delivery and Operations Branch in New Zealand's Department of Internal Affairs. He is responsible for the delivery of New Zealand Passport services, both nationally and internationally, and has overseen its development and deployment of a chip-based e-Passport, the introduction of online checking of passport entitlement through the Citizenship and Birth, Death and Marriages registries and the use of facial recognition technology in passport fraud detection. Philp plays a leading role in New Zealand's Passport System redevelopment programme, which includes the introduction of a 2nd generation e-Passport and the use of biometrics to significantly improve productivity and allow for automated application processing. Since 1997/98 he has been active in ICAO and is currently chair of the Organization's Implementation and Capacity Building Working Group (ICBWG).



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The solution to this situation needs to involve training the personnel in place in a given State or providing States with practical advice about the types of human resources that they might need to acquire in order to develop the required levels of knowledge and expertise. This means providing a complete and comprehensive initial assessment of the current capacities and shortfalls.

Is this a big part of what the ICBWG is currently working on?

We've developed materials both for external assessments by our teams and for internal reviews undertaken by the States themselves where they might have the required expertise already in place. This latter guidance has taken the form of a proprietary Assessment Guide, developed by the ICBWG specifically for this purpose.

Often, however, States simply don't have the internal expertise that would make using the Assessment Guide a practical alternative. In these instances we would usually provide an external assessment, however the main roadblock to that process continues to be funding. Most often the States requiring external assessment are also the States that do not have the budgets in place to pay for these activities.

This highlights then the very important role played by regional donor States or other well-funded regional and international organizations that have a clear stake in seeing the weak links in today's facilitation and security frameworks addressed on a broader scale.

Do equipment manufacturers or other private-sector stakeholders have a role to play in filling some funding gaps?

Vendors have an interest in selling products. There are a number of reputable ones who do assist States in this regard, on a case-by-case basis, but you cannot rely on that funding always being there. In most instances the direction of funds depends on the size of the contract that's involved or other purely commercial considerations.

What is more often the case in situations featuring States with limited funding and expertise capacities, is that the end product becomes very basic and drives the vendors to take shortcuts to maintain margins. These are reasonable commercial decisions but they don't generally advance the outcomes the public sector is striving to achieve.

We do have vendors who actively participate in the ICBWG and their input and intentions are very much worthy of mention and merit. In the end though these vendors do run businesses characterized by very narrow bottom lines. The broader goals of the international community, with respect to ensuring global levels of adequate mobility and security through travel identity documents, must be left to ICAO, its Member States and the

other public-sector organizations whose interests coincide with ours in this regard.

Our role in the ICBWG is really to educate States and to see that they have the means and tools at their disposal to ensure they get an end-product from their chosen vendor that is fully compliant with the ICAO Standards.

Where might a new document certification process fit into this assistance framework?

The ICBWG is currently developing is a certification scheme with ICAO that would enable countries to have their new passports reviewed and endorsed, but this is still in a very preliminary state of development. We hope to have something to propose to the ICAO MRTD Technical Advisory Group (TAG-MRTD) later this year.

The proposal under consideration is for prospective passports and other travel documents to be assessed both by a panel of experts and a laboratory process. This could confirm for States, very early on in the document development process, that their new books actually comply with the 9303 Standards. The labs and the experts that would facilitate the process are available externally, so ICAO's role would be simply to administer rather than conduct the process and then to provide the actual certification stamp once all applicable conditions had been met.

In an ideal world, however, I would stress that this certification could and should be ensured as part of a State's original procurement process. This would be achieved simply by including a requirement on behalf of any bidding vendors to acquire the certification on their proposed document design before they start to manufacture it.

Let's turn now to the Annex 9 Standards specifying obligatory deadlines for the universal minimal implementation of MRPs by 24 November 2015.

What are the main objectives that ICAO is shooting for in that regard and what stands in the way of full compliance?

I think there's still quite a challenge that persists in this regard. Many States have only recently met the terms of the April 2010 deadline and yet have ten-year validities on their existing passport stocks that are not MRP-compliant. This could potentially imply a situation where a non-MRP passport that was issued in 2009 could still be in circulation as late as 2019—obviously not a situation that anyone concerned with global mobility and security objectives wants to see enduring.

A related challenge this highlights is our need to further educate States on why it's important for them to move on from the antiquated 'stamp and renewal' policies that still persist globally. The realities of centralized document production processes today means that, in many embassies and

"The real challenge is communication. Education not only around which Standards are to be applied in what instances, but also what they mean, what the outcomes are and what States need to do to make sure that they've got issuance and other related processes in place that properly support the Standards over the longer term."

consulates, it becomes much simpler from a day-to-day administrative standpoint simply to stamp and renew older documents rather than going through the more complicated procedures involved with issuing a new and ICAO-compliant MRP.

I think the 2015 date is quite aspirational then as a deadline, but at the same time it's a very useful target to have in place. I'm doubtful that receiving countries will rigorously enforce the deadline so there definitely will be a grace period involved.

Given the current predominance of centralized production and issuance processes and policies, how do we move now to solve the 'stamp and renew' dilemma?

One solution is a fully-integrated distributed issuance system. This requires a much higher degree of technology being present than most States have at their disposal, however, not to mention the related human skills and capacities to operate it.

The reality in this context is that people need to travel urgently on occasion and they need to have some form of official travel document to do so—even if it's just to get them back home after they've had their proper passport stolen while abroad. One way to accommodate this very valid citizen need while respecting the international Standards is to suggest that countries develop special emergency travel documents that have a very, very short shelf-life.

I for one know that distributed-issuance and proprietary emergency systems can work alongside one another because my home country of New Zealand today employs both to great success. The ICBWG is developing some standardization at present for emer-gency travel documents but there is still a challenge in terms of what type of document you issue and the need for some technlogy to be incorporated into it to ensure that it's at least reasonably secure.

Obviously the shorter the validity, the less attractive it is to forge these documents, but you've still got to do some of the basic work and that can be a challenge.

When we talk about an emergency travel document, what form does that take generally?

Many countries still issue a simple paper document. In New Zealand we issue a book that is machine readable and complies with the ICAO Standard. But we've invested a bit of money and certain software that links it back to the passport database. For many countries, that's quite a challenge because they don't have a very sophisticated passport infrastructure and to put something equivalent out at the embassy level is quite a challenge.

Do you see a role then for increased standardization in emergency travel documents?

Absolutely. They remain a big hole in the security framework. The minimum should be machine-readability and the document being issued with the photo printed into the data page rather than simply adhered to it. These are really very basic security features and they should not be too difficult for States to implement.

Let's move on now to State assistance and capacity-building projects generally. What do you see as the ICBWG's role with respect to knowledge and technology gaps at the local State level and the funding instruments needed to help address those gaps?

The main role of the ICBWG is to provide some portion of the technical expertise that, at the very least, will help States to design programmes that are effective. We do this through visits, assessments and by providing guidance materials, but almost all of these activities have a funding component attached to them and, as I stressed earlier, this still remains the biggest challenge.

What we need is for the ICAO Secretariat to manage the administrative aspects of the donor process because the Organization itself is set up for that. The ICBWG can provide the technical expertise: it can help plan; it can validate proposals. But once it comes to donations it really needs to go through the bureaucracy of ICAO to have the proper credibility and accountability that's required.

Is it primarily developed States which are expected provide that funding to support their interest in evolving a stronger international security framework?

We need to be clear that no donor States direct their financial support simply on the basis of charity. There are always risk-based outcomes that are being sought when a donor State opens their wallet—whether regionally-based or subject matter-based or some combination of the two.

The first question a donor asks is: *How will this assist us in reducing our risk?* If, for instance, the potential donor has a particular problem with certain entrants from a certain State, then a clear rational arises for addressing deficiencies in the document issuance and production procedures of that State. It should be stressed though that, even when donor funding is restricted to this type of strict bilateral relationship, the breadth and interconnectedness of the travel and tourism sectors means that you eventually see regional and even global benefits arising from the investment that's been made.

In those situations that are less bilateral from the get go, donors are tending

"Donor funds are often targeted at supporting counter-terrorism projects, specific border control objectives or an improvement in the quantity and quality of police intelligence gathering. All of these activities help donor States to address local and regional concerns while fulfilling their responsibilities to provide assistance internationally."

to concentrate on enhancing security or issuing processes in a particular region rather than in specific States. This is usually done both to address the particular outcomes being sought as well as to establish improved levels of regional cooperation on a more generalized basis. Canada and the United States supporting various projects in the Americas is one such example; the role of the UK, France and the European Union on the African continent is another; and I know from personal experience that New Zealand has been influential in the Pacific Islands within a similar framework—most recently in Vanuatu.

Donor funds are often targeted at supporting counter-terrorism projects, specific border control objectives or an improvement in the quantity and quality of police intelligence gathering. All of these activities help donor States to address local and regional concerns while fulfilling their responsibilities to provide assistance internationally.

We intend to do a more comprehensive report on the more substantive aspects of the assistance that New Zealand is now providing to Vanuatu regarding its travel documents in a future *MRTD Report*. I was wondering though if you would touch on that briefly here.

The situation between New Zealand and Vanuatu is such that we have a lot of seasonal labour coming from Vanuatu to our country. Improving facilitation and security between our States by addressing travel document Standards compliance therefore means that both States' economies are assisted. Many similar projects in the world that have been completed or are currently underway provide precisely these types of 'win-win' benefits between bilateral partners.

New Zealand also enjoys a security spin-off benefit in this particular case because it can be far more certain once the new framework is fully in place of who's coming over and who's leaving. There's much, much more to it than that but those are the broad outlines of the situation and potential outcomes both States discerned when this cooperation was first considered.

What are the types of considerations that characterize the donor assistance dynamic and how do these considerations impact how the ICBWG coordinates its activities?

When a State looks to assist another State in a bilateral arrangement, we're very much talking about a long-term process and commitment. The ICBWG has got a lot of experts at its disposal but it's not a group or body that is structured such that it provides for us to be able to 'embed' somebody in a State for three of four years, for example.

There's also, not so much from the ICBWG outlook but from a more general international political perspective, the reality that States value their sovereignty and independence and for the most part don't enjoy having someone come in and tell them what to do. When these agreements are made they are almost exclusively bilateral and, even then, it can be difficult for just two States to balance the needs of an international framework with their national partisan priorities.

Getting back to ICAO and the ICBWG, the Group does serve a very useful purpose by coordinating the development of source legislation resources that can be adopted and/or adapted by a developing State with less loss of perceived sovereignty or national dignity than might be the case in a situation where something is handed to them by another State in their region.

The ICBWG also coordinates closely with other international organizations which perform a similar function for States through related policy arenas such as immigration or anti-terrorism. Part of our mandate involves setting up workshops and assessment missions so weaknesses can be identified that will eventually be the basis for either a direct State project or an effort by a partnering international organization. Between all of these organizations there are a lot of good people and some very practical skills, knowledge and expertise being made available to needful States all across the world.

Can you discuss some of those partnering organizations more specifically for a moment?

Off-hand I would point out the work that the International Organization for Migration (IOM) did in Haiti with Canada. That was an excellent assistance project that evolved into a methodology which in turn is now benefitting many other States.

There is also the example of the Organization for Security and Co-operation in Europe (OSCE) within the ICBWG, providing assistance through donors' money to specific central Asian countries, and the similar dynamic regarding the work of the Organization of American States' Inter-American Committee against Terrorism (OAS CICTF) in the Americas.

I should point out as well that the ICBWG is still quite new to the scene overall and we still have some time to get under our belts before what we do and the skills and resources we can bring to bear are better understood by all of the relevant States and stakeholders. We've been challenged by the financial process over the last few years with respect to being able to free up people to do work, as it's often complicated and difficult to secure those financial resources precisely when we need them.

What objectives are taking up the better part of your Group's efforts today?

We're presently putting particular focus on a new certification process. We also are looking to branch out more into the vocational training area to help ICAO develop suitable packages based on a more standardized training approach. This helps ensure that there's consistency of delivery, consistency of learning and more effective aggregate knowledge transfer. This is an important role that ICAO can play but the ICBWG has to make sure the Organization actually delivers the benefits.

"As of the 2010 deadline and the commendable results ICAO achieved with expanding global MRP implementation levels, the MRTD Programme has established itself as one of the true building blocks of the emerging global security framework."

The other area we're looking at currently is procurement and the development of related guidance materials for countries to help get them through those often complex processes. I should point out that the outcomes in this area could be equally applied to civil registry and travel document project management.

Could you elaborate on that?

What we're not trying to do is develop an overly detailed process. That can be provided but what we're really after here is more basic guidance surrounding the broader 'do's and don'ts'.

One example of the advice we'd like to provide is having States always include their contracts with their tender documents. Many countries issue tenders and then may renegotiate the contract later. This unfortunately diminishes their bargaining position significantly. There are also quite a lot of responsibilities to be familiar with when comparing the contract at the time of tender. States will tell you this is all very straightforward but what we're seeing is that in a general sense the work is actually not being done to ensure best results.

As with our parallel objectives we expect to have results on this front closer to the end of 2011. Of course ICAO itself has a great deal of expertise in the Technical Co-operation Bureau and they are looking to broaden their scope and provide greater support for States in the area of MRTD procurement.

How do the Secretariat's related MRTD efforts fit into this framework?

All of the Working Groups are very keen to see ICAO develop a broader strategy moving forward. We're all doing a lot of good work but what we need is a stronger strategic framework to do it in.

I think it's clear that when ICAO started developing MRTD Standards it was to ensure global interoperability—now there's a stronger focus on security. But if security is the key issue then the programme of work needs to reflect that and the strategy supporting the work programme needs to reflect that. There needs to be a paradigm shift then with respect to what ICAO's doing in the MRTD Programme, not just with the Standards but with the whole strategic security framework. I think that's really important.

How do you see the MRTD Programme specifically serving the needs of a broader security framework in that sense?

Aviation security is critical now to international cooperation on anti-terrorism

“Security efforts require reliable establishment of identity and that starts with State civil registries. ICAO can play an important part in helping States identify individuals effectively, securely and with integrity. It’s an area the Organization is moving towards and I think it’s a critical area.”

and other global criminal investigations. The MRTD Programme plays an important role in that regard. As of the 2010 deadline and the commendable results ICAO achieved with expanding global MRP implementation levels, the MRTD Programme has established itself as one of the true building blocks of the emerging global security framework.

ICAO also still has a leadership role to serve in the defining the holistic qualities that characterize the processes surrounding the establishment of identity and the issuance of documents—not only the Standards for designing passports. Security efforts require reliable establishment of identity and that starts with State civil registries. ICAO can play an important part in helping States identify individuals effectively, securely and with integrity. It’s an area the Organization is moving towards and I think it’s a critical area.

What really needs to be stressed in this sense is that you can’t just look at one element of the system. For many years we’ve been focusing on bits of it but, today, we need to look at the entire infrastructure of identity and documents as a unified whole and develop guidance materials and potentially Standards that reflect that new level of global understanding.

I think we’ve covered all our bases today—is there anything else you’d like to conclude with?

One thing I’d really regret not mentioning here is how States can develop capacities and international respect by being more participatory in forums such as ICAO.

My country, New Zealand, has been participating in various ICAO forums for about 15 years now. And it’s noteworthy that we really came here to learn. If I had a key message for States thinking about joining an ICAO Task Force or Working Group, it’s that you really do learn a great deal as a State through participation in these international forums.

New Zealand, because of its size and scale and general degree of innovation, has been able to apply the lessons it’s learned very well I think. But we wouldn’t have had that opportunity had we not participated. My role and responsibilities, as well as that of my new Zealand colleague who performs a function in the leadership of the TAG-MRTD currently, are partly about giving something back to the international community because we understand how much we’ve benefitted from ICAO.

The participation and the relationships you build with associates from other countries that are available at this level of international cooperation has provided New Zealand with a wealth of knowledge and experience that we lacked and would have had a much more difficult time acquiring without ICAO’s assistance. I can’t encourage States enough to take the same steps if they’re interested in developing practical capacities and the invaluable respect of other nations in the world community. ■

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Following on the successful MRTD Regional Seminars held in Uruguay and Mozambique in 2010, ICAO will be hosting two regional MRTD events in late 2011 in Doha, Qatar and Singapore. These special information sessions highlight the latest developments in MRTDs, identity management and border security from a regional standpoint but are also very useful for individual States.

Who are they for?

ICAO's MRTD Regional Seminars provide informative updates and review best practices associated with a diverse range of facilitation and security issues. They are of particular interest to national identity and travel document issuance authorities, immigration, customs and other border inspection and law enforcement agencies, ministries of interior and foreign affairs, as well as embassy consular staff. Other key stakeholders include airlines and airport authorities, academia and think tanks.

An exhibition will complement the Seminar, highlighting key suppliers and the latest products and services for MRTDs, biometric identification, security applications and border inspection systems.

For more information, please contact the MRTD Secretariat:

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The Security of e-Passports in Europe

In 2010, Frontex—the European Agency tasked with the management of operational cooperation at the external borders of the Member States of the European Union—commissioned a study on the Security of Electronic Passports (e-Passports) in Europe.

In the following submission, Frontex provides details and explanations concerning the rationale, methodology and outcomes of this important review.

In December 2006, the Council of the European Union adopted the concept of Integrated Border Management. It was specified based on the following parameters:

- Border control (checks and surveillance) as defined in the Schengen Borders Code, including relevant risk analysis and crime intelligence.
- Detection and investigation of cross-border crime in coordination with all competent law enforcement authorities.
- The four tier access control model (measures in third countries, cooperation with neighboring countries, border control, and control measures within the area of free movement, including return).
- Inter-agency cooperation for border management (border guards, customs, police, national security and other relevant authorities) and international cooperation.
- Coordination and coherence of the activities of Member States, institutions and other bodies of the European Community and Union.

With the abolishment of the internal borders of the European Union, the need arose for the Member States to collaborate on the management of the external borders.

Frontex, also known as the European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union, is the European agency that has been created specifically for the task to coordinate the Member States collaboration in managing the external borders. The activities of Frontex are intelligence-driven and focus on areas ranging from risk-analysis to operational activities, training and R&D.

The Frontex Research and Development Unit follows-up on developments relevant to border control and disseminates this information to end-users. The Unit produces guidelines and commissions studies to assess the value of new technology and to help establish priorities for the development of future capabilities for European border security.

Examples of the guidelines and studies produced, or in production, by the Unit include "*Ethics of border control*", "*BIOPASS – Study on Automated Border Crossing systems for Registered Passengers at Four European Airports*", "*BIOPASS II – Automated Biometric Border Crossing Systems Based on Electronic Passports and Facial Recognition: RAPID and SmartGate*", "*Best Practice Guidelines on the Design, Deployment and Operation of Automated Border Crossing Systems (2011)*", "*Anti-corruption measures in EU border control*".

Figure 1: An e-Passport, as identified by the unique symbol bottom-left.

Study on Electronic Passport Security

Since August 2006, the 27 Member States of the European Union have been required to issue e-Passports that contain a digital facial image. Since June 2009, they have been obliged to issue second generation e-Passports that also include two fingerprint impressions.

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The purpose of mandating the issuance of e-Passports has been to strengthen the link between the passport and the carrier of the passport, as well as to make it easier to verify the authenticity of the passport. Other European biometric initiatives include the Visa Information System currently being rolled out, which is used for third country nationals applying for a visa to the Schengen area.

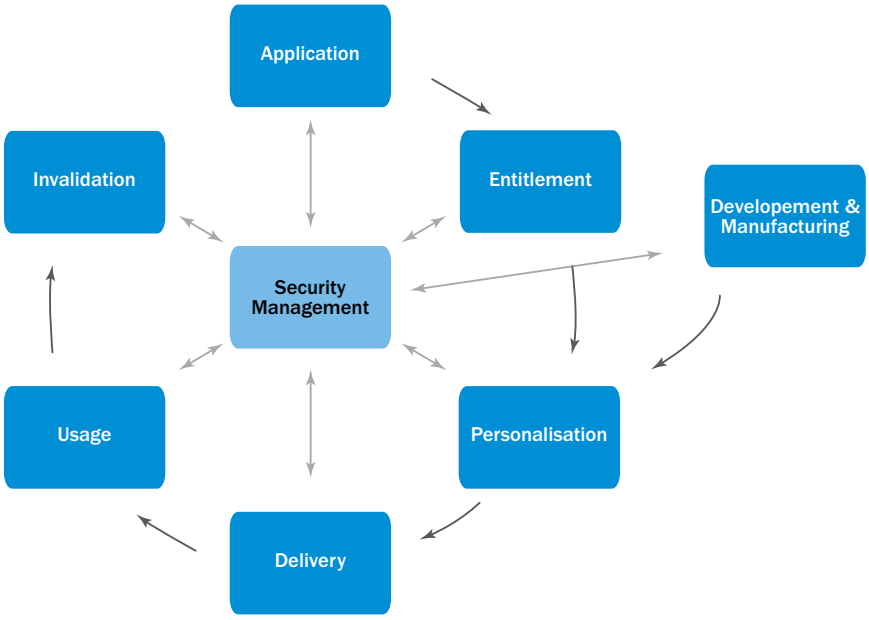
With the increase in the numbers of e-Passports in circulation in the European Union, the need arises to assess the security impacts of the new technology. Border guards will be encountering e-Passports in ever greater numbers, and in some cases – most notably the Automated Border Control (ABC) systems already in operation in several major European airports – the added functionality of these passports is already being put to use for travel facilitation of European citizens.

Meanwhile, the added security that e-Passports can provide, with the proviso that they are used correctly, will likely mean that fraudulent travelers will move away from falsified passports and instead seek to subvert the border control system either by attempting look-alike fraud using genuine documents, or by trying to subvert the issuance process in order to be fraudulently issued with genuine e-Passports.

The Schengen borders-code, and also the Schengen handbook, provide instructions on how to conduct border checks and border surveillance, but do not deal with biometrics to any large extent. In view of this, coupled with the widespread dissemination of e-Passports, in 2010 the Frontex Research and Development Unit commissioned a study on the "*Operational and Technical security of E-passports*".

The tender for the study was awarded to PriceWaterhouseCoopers, working together with Collis and the digital-security group of Radboud University, Nijmegen, the Netherlands. Work on the study began in mid-2010 and was completed by the spring of 2011.

Figure 2: e-Passport Life-cycle



The specific objectives of the study, as stated in the terms of reference, were as follows:

a) To establish an inventory of security relevant issues in the context of the application for, production, and use of electronic passports (BAC and EAC) in Europe.
b) To individuate differences among EU/Schengen member States and highlight eventual problems for interoperability when the passports are used for identification at external borders.
c) To identify best practices related to the issuance processes.
d) To suggest a set of recommendations to redress security gaps in the issuance process.

The study included direct interviews with selected experts and a questionnaire answered by European authorities, and was concluded with a risk-analysis workshop attended by experts selected by the EU/Schengen Member States national authorities.

The resulting report covers not only security but also interoperability and follows the e-Passport through all the steps of its life-cycle, from application to invalidation.

Interesting issues that unfortunately had to be left outside the scope of the study include technical issues specific for e-Passport readers, as well as the accuracy of biometric technologies.

During the concluding risk analysis workshop, it was found that the attending experts in some cases held differing views on related vulnerabilities and priorities. The study should therefore be seen as an initial and rather broad investigation into the issue of European e-Passport security.

Sample Conclusions

Some of the conclusions and recommendations from the study included that, since every Member State in essence has the role of a "back-door"

into its Schengen neighbors, it is important to ensure that each external border maintains a minimum equivalent level of security. The study found variations in how the electronic functionality of the e-Passport is used during border control—use which incidentally was found to be limited. It also highlighted variations in the e-Passport issuance process.

Examples of recommendations stemming from this were the need for greater harmonization efforts and the need for intensified training of border guards in the specifics of e-Passports inspection. Required training for passport issuance officers on how to detect falsified breeder documents, such as birth certificates, was also noted. With a view to the issue of look-alike fraud (see related story, page 4), it was recommended that it be investigated whether further improvement of the quality of the digital facial image would produce further security enhancements.

Other recommendations were, for example, that the use of the SHA-1 algorithm be phased out for Passive Authentication and that, since National ID cards are accepted as travel documents for entry at the EU/Schengen border, it should be investigated how to avoid having National ID cards form the weakest link in border control and issuance.

Future Activities

As a consequence of the study, topics under consideration by the Frontex Research & Development Unit for future action are currently: a) standards for evaluation of biometric systems in Europe; b) PKI technical implementation surveys; c) e-Passport interoperability; and d) recommendations for e-Passport inspection procedures. ■

Pioneering Efforts

In 1980, ICAO published the first technical specifications for a Machine Readable Passport (MRP) in its new Doc 9303. Over the ensuing decade, the Organization continued to refine these specifications on the basis of new technologies, adopter-State feedback and through a unique fast-track relationship it established for this purpose with the ISO.

The more comprehensive Machine Readable Travel Document (MRTD) specifications in today's Doc 9303 benefit tremendously from these early efforts and have come to serve as a critical backbone of modern aviation facilitation and broader international security frameworks. They support the efficient and secure travel experience of literally billions of passengers every year while providing invaluable assistance to border control and law enforcement organizations around the world.

Roderick (Rod) Heitmeyer, who became Chief of ICAO's Joint Financing & Facility Management Branch in 1985, and René Pouliot, who served as his Chief of Facilitation during this same period, spoke recently with the MRTD Report about the challenges and successes that characterized their work in this area during the 1980s and early 1990s—a truly pivotal decade in the history of aviation facilitation and security accomplishments.

When the first specifications for a Machine Readable Passport (MRP) were developed by ICAO in 1980, few at the time could have surmised that, in just a few short decades, this seemingly run-of-the-mill technical guidance would come to prescribe the international travel experience of virtually everyone in the world.

Fewer still would have understood that the work they were doing would become the foundation of a new framework of identity and mobility management that would soon serve as a truly invaluable resource to global security and law enforcement stakeholders.

"When I came to the facilitation area, the MRP topic was very much front and center," noted Rod Heitmeyer, formerly Chief of ICAO's Joint Financing and Facility Management Branch, comprising Joint Financing, Facilitation and Airport and Route Facility Management. "But I don't think any of us could have guessed at where all this would be headed as the technologies

and procedures we were outlining began to be implemented around the world."

Heitmeyer had previously worked as Chief Economist and later Economics and Research Services Director at IATA. In 1974, he joined ICAO as Chief of the Economics Section in the Air Transport Bureau. Heitmeyer would go on to serve with the Organization for the next 20 years and, during that time, was promoted to Chief of the Joint Financing & Facility Management Branch in 1985.

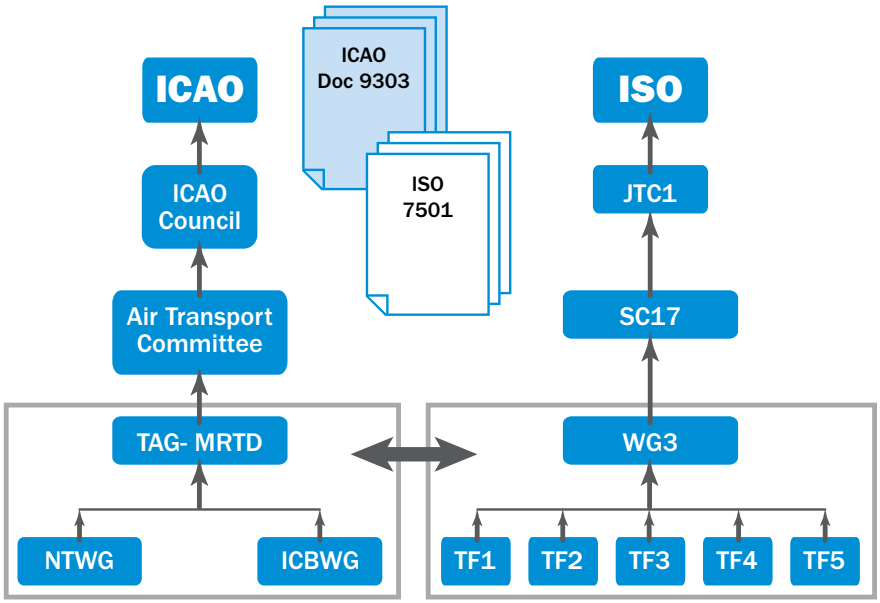
"When I took over Facilitation, it was clear that several States had already or were very soon going to be producing MRPs," Heitmeyer recalled. "The early MRP adopters—the United States, Canada, Australia and the United Kingdom—had begun to discern the more practical implications of MRP implementation and it was clear that we needed a new group to address their technical concerns and update and develop new specifications."

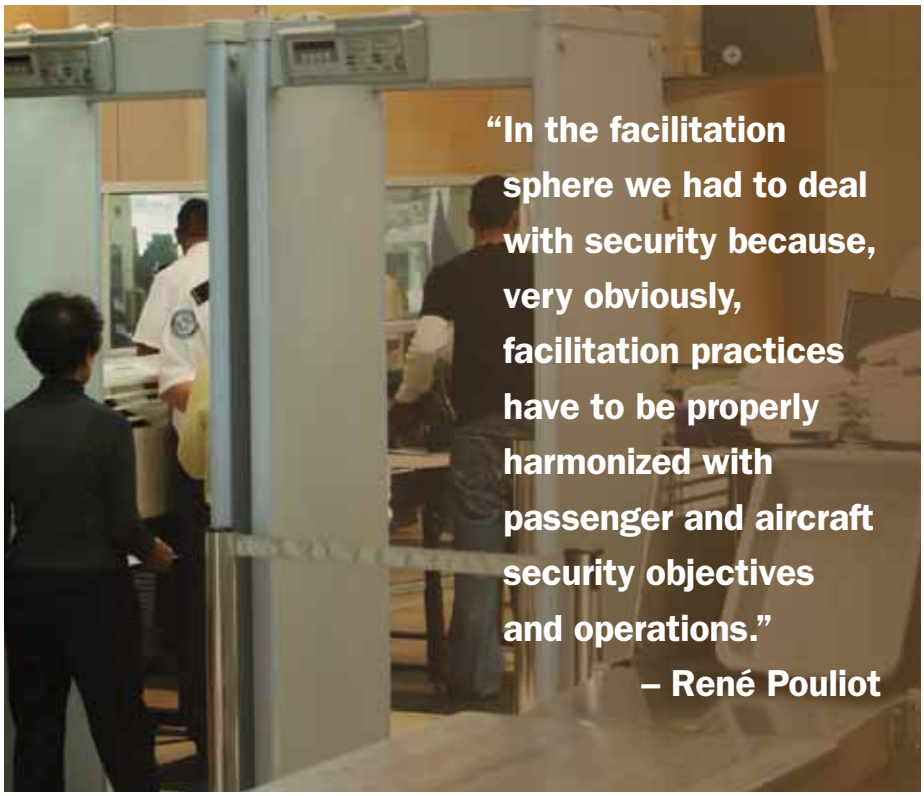
The new group would be known as the TAG-MRP, or Technical Advisory Group on Machine Readable Passports. It held its first meeting in 1986 and, at that time, was comprised of passport and immigration experts from twelve States.

The Secretary of the new ICAO TAG-MRP was René Pouliot, who had joined ICAO over thirty years earlier in 1951 as Assistant to the Chief of the Joint Financing Branch. He eventually would go on to enjoy a successful career with the Organization, becoming Chief of the Statistics Section, and an Economist in the Air Transport Studies Section of the Economics and Statistics Branch. Pouliot and Heitmeyer first met in the late '50s when Pouliot was a Statistics Officer and Heitmeyer was responsible for Economics and Statistics in IATA.

"Arno Seidelman was planning an early retirement and I was asked to take over from him as Chief of Facilitation," began Pouliot. "This was in 1985. I frankly wasn't very enthusiastic about the new posting because, from my outsider's point of view, facilitation appeared to be purely a regulatory job without any creativity or intellectual interest.

Figure 1: Org structure of the ICAO/ISO working relationship governing the development and standardization of ICAO Doc 9303 specifications on Machine Readable Travel Documents (MRTDs). Since the time this structure was originally established in the late 1980s, only the ICAO Working Groups (WGs) have been adjusted to reflect evolving priorities.





Fortunately, when I began to take on the role in earnest, I found it was exactly the opposite."

Aviation Facilitation was indeed a very multi-disciplinary undertaking when Pouliot came to his new responsibilities at ICAO. It involved immigration, customs, agricultural export controls, passenger health, the prevention of terrorism, the control of narcotics, as well as the more expected standardization of signage and management of passenger flows at airports as well as the elimination of double and multiple taxation upon airlines and aeronautical supplies and equipment.

Although aspects of his facilitation role, notably the prevention of terrorism and the control of narcotics, sound more like responsibilities that a security officer might be assigned to in today's ICAO, at the time security was a separate unit in a different ICAO Bureau.

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Rod Heitmeyer (right) with former long time Chairman of the TAG-MRTD and UK TAG Member Tim Lonsdale (left), during an INTERPOL conference in Ottawa, Canada in the late 1980s.

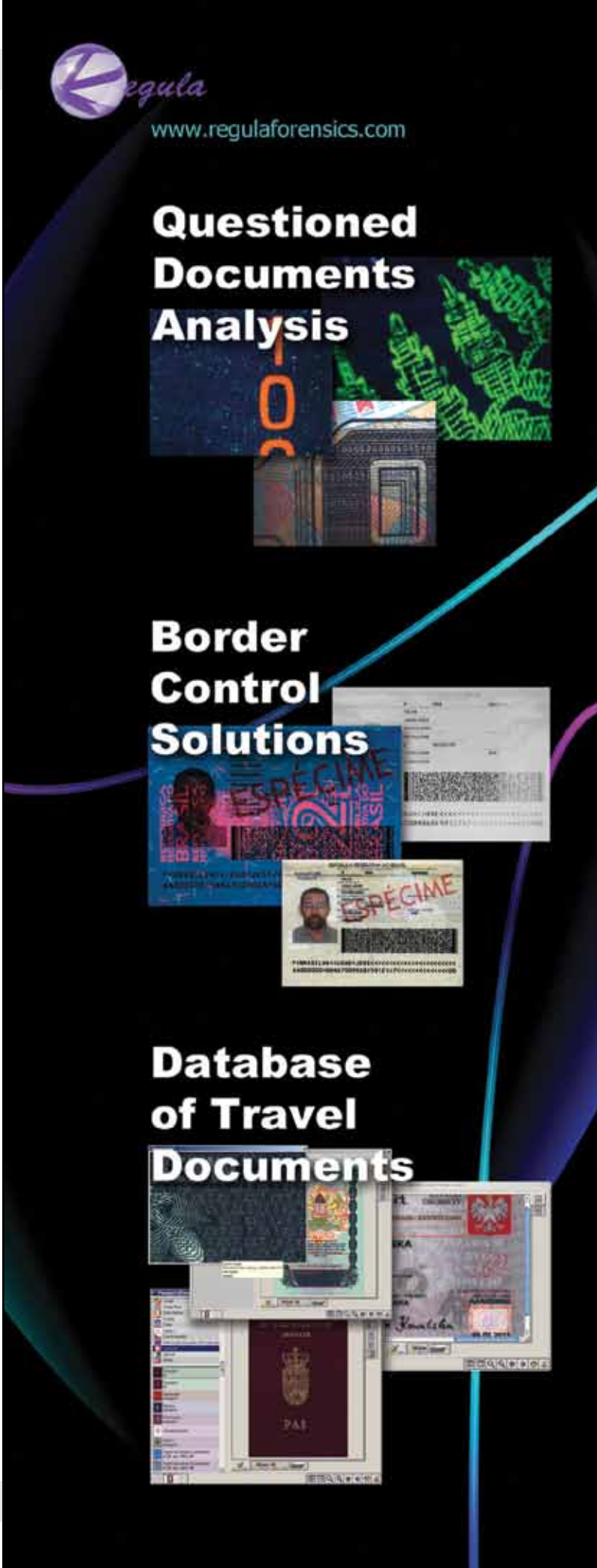
"In the facilitation sphere we had to deal with security because, very obviously, facilitation practices have to be properly harmonized with passenger and aircraft security objectives and operations. It seemed as if every day my Bureau Director, who at that time was Ron Bickley, would bring me new security papers to review or ask that I attend meetings of one security working group, committee or another," noted Pouliot. "Security was an important part of my job and I must say I found it extremely interesting. It obviously became more and more of a priority as we further standardized the machine-readable passport."

Facilitation during the 1980s also entailed maintaining relations with many other international organizations, such as IATA, ISO, Interpol, AACC (now ACI), World Customs Organization, World Tourism Organization and the Universal Postal Union. The first four of these organizations participated in the TAG. Today that list has grown much longer.

"One of our more important inter-agency relationships in the 1980s revolved around our responsibilities with the Doc 9303 specifications and the ISO's role as an international standards certifier," Heitmeyer remarked. "ICAO had decided to take a lead role in amending or developing new MRP specifications due to its close relationship with the entities actually using them—its Member States—but we also recognized the need for industry co-participation and input through the ISO."

Heitmeyer and Joel Shaw (ISO representative and later long time Convenor of ISO WG3) developed an operating mechanism to provide a closer and more comprehensive relationship between ISO and ICAO, one whereby an ISO Working Group (WG3) would provide technical input and consultancy to the new ICAO Technical Advisory Group.

Under the arrangement arrived at (see Figure 1 p. 35), ISO would provide input to the TAG-MRP through its WG3 (which acts as an observer) and would endorse amendments to Doc 9303 specifications as a new ISO Standard—7501—but on a greatly



accelerated basis. This special arrangement was officially adopted in 1989 and has very much stood the test of time. It continues today to support and realize the related objectives of both Organizations.

"The TAG expanded from 12 to 15 States at this time and we made sure to limit the WG3 industry participation to six Observers so as not to overwhelm the State participants," Heitmeyer stressed. "This successful ICAO/ISO cooperative mechanism has remained basically unchanged since then. It's very much withstood the test of time."

While Heitmeyer and his colleagues were establishing the high-level organizational structures that would streamline the development and amendment of travel document standards for years to come, Pouliot meanwhile was focused more on the details in the 9303 specifications.

"My predecessor, Arno Seidelman, had produced the first Doc 9303 with the Panel on Passport Cards before I came on the scene and he had performed those responsibilities very meticulously," recalled Pouliot. "That first 1980 version was very much reflective of his German upbringing and work habits—precise to the last comma and absolutely accurate."

While Seidelman had produced the excellent first edition in the literary style of many ICAO Air Transport publications of the time, Pouliot's attendance at related ISO meetings had begun to impress upon him that Doc 9303 might be revised in the even more exacting style of an ISO Standard.

René Pouliot (second from left) during his tenure as Secretary of the original Technical Advisory Group on Machine Readable Passports (TAG-MRP) in the late 1980s. Seated with him on this occasion are Pam Shaw (far left) who succeeded Pouliot as C/FAL; Ted Radclyffe (Australia, second from right), TAG-MRP Chairman; and Rod Heitmeyer (far right).

"The TAG had met several times during this period in the late 80s and it became apparent to all that amendments were needed not only to 9303's structure but to its style," he noted. "Some of that work fell to me and I remember conferring with one of the ISO representatives about how 9303 would benefit from being written more like an ISO Standard. He certainly had no objection to this approach and so that guided my efforts in reflecting the TAG's amendment decisions for some time to come."

By 1993, the new Doc 9303 had been expanded to include not only updated specifications for machine-readable passports but also specifications for travel visas, official documents of identity, and a fourth Part on crewmember certificates. Over time the last two Parts were combined, leaving the world with the three main Parts which still constitute the guiding Doc 9303 specifications.

"There's obviously much more to it and a great many individuals who we could list that contributed to these tremendous early efforts," concluded Heitmeyer. "This is very complex work we're discussing and a surprisingly small team of experts has been responsible for moving it forward over the years. The programme then and now is a testimony to the benefits of dynamic and imaginative cooperation and to the dedication of many unselfish individuals. Despite my apparent lack of objectivity having known so many of the people involved, in my opinion it still represents one of the most successful programmes ICAO has ever been involved with." ■

"This is very complex work we're discussing and a surprisingly small team of experts has been responsible for moving it forward over the years. The programme then and now is a testimony to the benefits of dynamic and imaginative cooperation and to the dedication of many unselfish individuals."

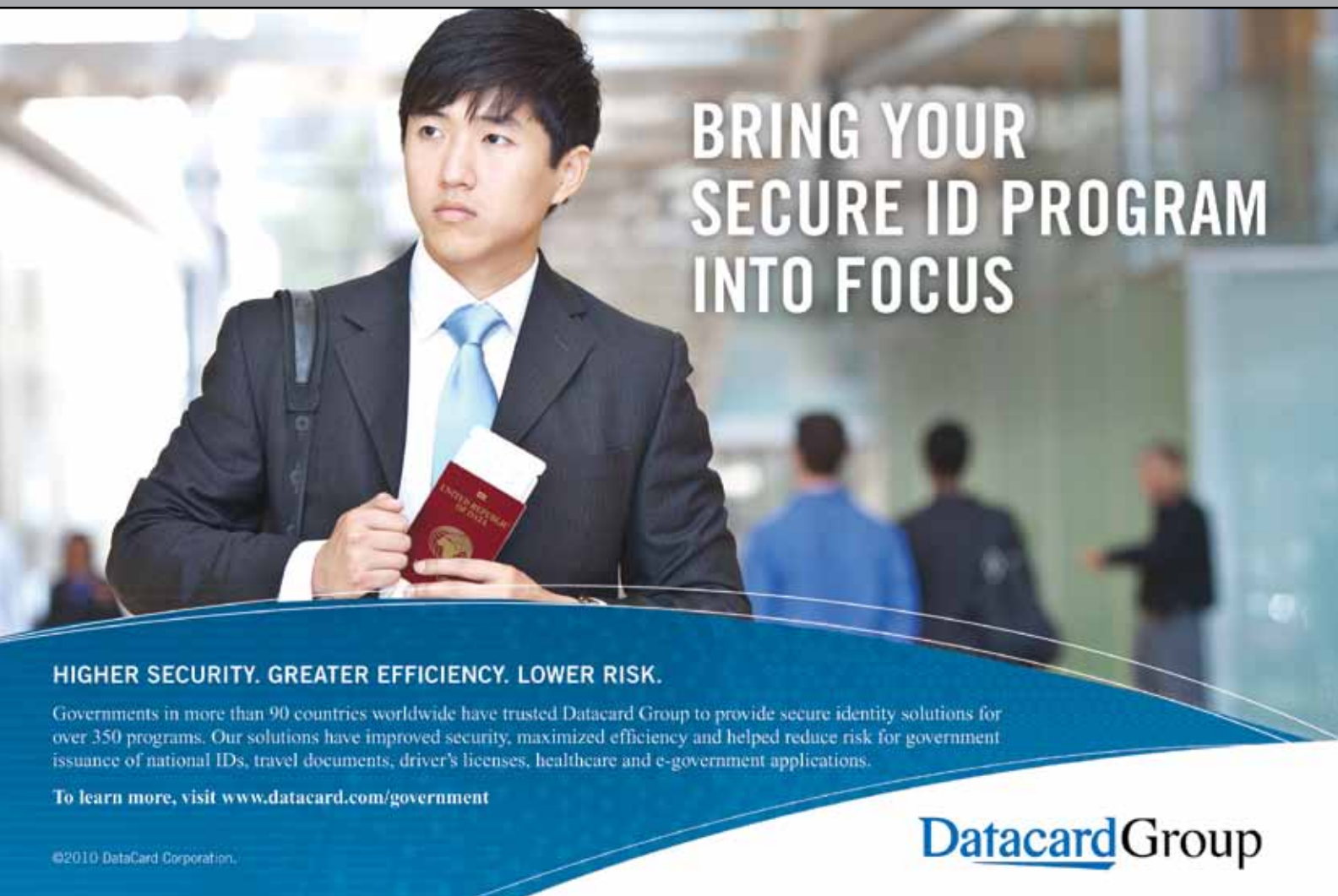
– Rod Heitmeyer

Nigeria Becomes First African State to Join the ICAO PKD

On 2 June 2011, Nigeria, represented by ICAO Air Transport Bureau Director Folasade Odutola, imported the State's Country Signing Certificate Authority (CSCA) or 'public key' into the secure facilities at the ICAO Public Key Directory (PKD) Operations Center. Odutola was joined on the occasion by Steven Berti, Chief of the ICAO Aviation Security and Facilitation Policy Section, and Christiane DerMarkar, PKD Joint Financing Officer.

The CSCA Certificate import ceremony serves to formalize State active participation in the ICAO PKD. The Certificate permits the validation by border officials of Document Signer Certificates and the Document Signer Public Key included on e-Passport travel documents. Officials can also use the Certificate to validate whether an electronic travel document was issued by a competent authority, as well as confirming if its data has been altered in any way subsequent to its issuance by that authority.

With its CSCA Certificate import ceremony now completed, Nigeria becomes the first African State to join the ICAO PKD. ■



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