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Facilitation of Air Transport

1. AIR TRAFFIC GROWTH

In 1999, IATA member airlines carried over 1.3 billion passengers and 27.7 million tonnes of cargo representing a growth of 3.8 per cent and 5.9 per cent from 1998 respectively.[1] As pointed out by Mr. Pierre J. Jeanniot, Director General and CEO of the International Air Transport Association (IATA), the world scheduled air transport industry has grown from an estimated 9 million passenger journeys in 1945 to about 1.5 billion in 1999, and the volume of cargo carriage by the world's airlines has risen from a few thousand tonnes in 1945 to 25 million tonnes today. By 2010, the number of passenger journeys by air could exceed 2.3 billion. World air traffic will then triple in the next 20 years.[2] Passenger and freight traffic will increase at an average annual rate of 5 per cent between 1999 and 2010, a rate considerably greater than that of the growth of the global Gross Domestic Product.[3] The disparity between these two rates of growths has significant consequences for a large number of countries, which may not be in a financial position to cope with the emerging burdens that come with air traffic growth. It has been estimated that a USD 350 billion investment in air transport infrastructure, services, and en-route facilities will be needed to lodge the air traffic increase.[4] The escalation of air transport requires major changes to the scenario faced nowadays. Simply, it is not feasible, or practical, to triple the current infrastructure to accommodate such increase in air transport. One unequivocal way to confront the problem would be to implement

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1. See IATA, *World Air Transport Statistics* (Montreal: IATA, 2000). See also IATA, News Release PS/12/00 2000 W.A.T.S. – More Passengers, Less Profits (19 June 2000), online: http://www.iata.org/pr/pr00jung.html (date accessed: 8 April 2001).
2. See Airbus, 'A3XX Economics' online: http://www.airbus.com/products/A3XX_economics.html (date accessed: 8 April 2001).
3. See P.J. Jeanniot, 'The Future of the Airline Industry' (Economist Global Airlines Conference, 16 May 2000), online: http://www.iata.org/pr/speech2.html (date accessed: 8 April 2001).
4. See ICAO, *Investment Requirements of Aircraft Fleets and for Airport and Route Facility Infrastructure to the Year 2010* (Montreal: ICAO, 1995).

automation[5] mechanisms and devices to facilitate the flow of air traffic, focusing on the clearance of customs lines and immigration passport controls' endless formalities. In this vein, a large number of initiatives undertaken by the private and public sector have been conducted trying to achieve such goals. Therefore, this article will examine some of those endeavours attempting to determine whether they are in accordance with or conflict with the provisions contained in international legal instruments, particularly focusing on the facilitation programme as established by the International Civil Aviation Organization. An assessment of any possible revision and amendment of the current international legal framework will also be formulated. Finally, the article will critically analyse the feasibility of their global application.

2. International Civil Aviation Organisation Facilitation Programme

2.1. The Chicago Convention

On 4 April 1947 the Convention on International Civil Aviation[6] entered into force and therewith the International Civil Aviation Organisation (ICAO) aimed at developing the principles, planning, and techniques of international air navigation, as well as ensuring safety and encouraging the development of airports and navigation facilities for international civil aviation.[7] Several articles in the Chicago Convention are directly devoted to facilitation of air transport. For instance, Article 10 specifies that every aircraft entering the territory of another Contracting State must land at and take off from airports designated by that State in order to comply with customs examinations.[8] Article 11 provides that an aircraft entering or leaving a particular Contracting State must comply with the laws and regulations related to admission and departure thereof.[9] These formalities must be complied with, upon entrance into or departure from, or while within the territory of that State.[10] By adopting Article 22, Contracting States have agreed to adopt all practicable measures to facilitate and expedite the navigation of aircraft between their territories, avoiding unnecessary delays to aircraft, crews, passengers, and cargo, specifically when applying laws relating

5. The word automation in this article will be used as 'a means of processing and controlling great masses of varied data from many sources'. I.H.Ph. Diederiks-Verschoor, 'Automation and Air Law' (1987) XII Ann. Air & Sp. L. 15.
6. See *Convention on International Civil Aviation*, 7 December 1944, 15 UNTS 295, ICAO Doc. 7300/6 [hereinafter *Chicago Convention*].
7. See *ibid.*, Art. 44.
8. See *ibid.,* Art. 10.
9. See *ibid.,* Art. 11.
10. See *ibid.,* Art. 13.

to immigration, quarantine, and customs.[11] Thus, each Contracting State is committed to developing customs and immigration procedures related to international navigation, 'so far as it may find practicable', in accordance with the standards and practices established by ICAO.[12] Pursuant to its objectives, the Chicago Convention provides that 'each Contracting State undertakes to collaborate in securing the highest practicable degree of uniformity in regulations, procedures, standards, practices, and organisation in relation to aircraft, personnel, airways, and auxiliary services in matters in which such uniformity will facilitate and improve air navigation.'[13] Thus, ICAO has been bestowed the mandate to adopt and amend from time to time international standards, recommended practices, and procedures dealing with a vast variety of areas, *inter alia,* customs and immigration procedures.[14] Therefore, as stipulated under Article 54(l) of the Chicago Convention, ICAO elaborates the so-called 'Annex' to implement those international standards and recommended practices adopted with the 'consensus' of the Contracting States. The denomination of 'Annex' was given purely for purposes of convenience.

2.2. Annex 9

Designated as 'Annex 9', the Standards and Recommended Practices on Facilitation were originally adopted on 25 March 1949 and have since then been successively and comprehensively amended. Through this particular Annex ICAO tries to gather all its Contracting States in order to develop common policies seeking to expedite the flow of traffic. The term 'facilitation' denotes the implication in air transport of a balkanisation of players*, inter alia*, civil aviation authorities, airport administrators, airline operators, regulatory authorities, passengers, customs, immigrations, agriculture, health representatives, and tourism authorities.[15] The complexity of the scenario is often aggravated by the lack of collaborative spirit from the implicated participants. Therefore, there is a considerable risk that the spirit of this Annex could remain as pure literature

11. See *ibid.,* Art. 12. Accordingly, ICAO has urged Contracting States to give special attention to obligations established in the aforesaid article particularly aimed at providing the legal foundation for implementing its facilitation programme. See ICAO, *Consolidated statement of continuing ICAO policies in the air transport field*, Assembly Resolution A32-17, app. D (October 1998), online: http://www.icao.int/icao/en/res/a32_17.html (date accessed: 8 April 2001).
12. The words in quotation marks conceive the flexible discretionary safety net for Contracting States in cases where they may not be in a position to comply with such provisions. See *Chicago Convention*, *supra* note 6, Art. 23.
13. *Ibid.,* Art. 37.
14. See *Chicago Convention*, *supra* note 6, Art. 37 (j).
15. See R.I.R. Abeyratne, 'Facilitation and the ICAO Role – A Prologue for the Nineties' (1990) XV AASL 3 at 8.

without any practical application, unless there is a cohesive effort undertaken by all the players involved. Annex 9 deals with Standards and Recommended Practices on Facilitation that have either:

1. a negative form, whereby States agree not to impose additional requirements, such as restrictions and paperwork; or
2. a positive form, whereby States agree to provide the minimum facilities needed for the proper circulation of passengers generated from air transport.[16]

An International Standard, adopted by the Council pursuant to Article 54(l) of the Chicago Convention, obligates Contracting States to guarantee the highest practicable degree of adherence to its contents, and is necessary to facilitate and improve facets of international air navigation. In contrast, a Recommended Practice is a highly desirable guideline to be implemented by Contracting States to aid the progress of international air navigation.[17] The former uses the word 'shall', indicating its mandatory applicability and the latter the word 'should', giving a more flexible application.[18] Contracting States shall immediately notify the Council of non-compliance with a standard pursuant to Article 38 of the Chicago Convention. Thus, as pointed out by R.I.R. Abeyratne: 'the notification to the Council does not absolve Contracting States from continuing securing the highest practical degree of uniformity'.[19] Herein arises one of the main flaws of the ICAO system: a large number of Contracting States do not inform the Council of their current non-compliance with standards and procedures, thereby creating uncertainty and jeopardising air transport safety.[20] Legally speaking, Contracting States are not obliged to adopt standards and recommended practices, but are required to notify the Council of any difference from them.

Chapter 1 of Annex 9 establishes definitions and its scope, stressing applicability to all categories of aircraft operation, scheduled and non-scheduled, except where a particular provision states otherwise. Chapter 2 covering entry and departure of aircraft, confers the 'green light' to electronic data interchange (EDI) clearance of both passengers and cargo.[21] Accordingly, Contracting States shall

16. See Annex 9 (Facilitation) to the *Convention on the International Civil Aviation,* (10th Ed. April 1997) at (v) [hereinafter *Annex 9*].
17. See ICAO, *Consolidated statement of ICAO continuing policies and associated practices related specifically to air navigation*, Assembly Resolution A32-14, app. A (October 1998).
18. See R.I.R. Abeyratne, 'The Role of Automation in Facilitation of Air Transport into the 21st Century' (1995) XX AASL, Vol. I, 259 at 271.
19. *Ibid.,* at 268.
20. See especially M. Milde, 'The Chicago Convention - Are Major Amendments Necessary or Desirable 50 Year Later?' (1994) XIX AASL, Vol. I, 401 at 425.
21. EDI has been regarded as 'the electronic transfer, from computer to computer, of commercial and administrative data using an agreed standard to structure an EDI message'. See EC, *Commission Recommendation of 19 October 1994 relating to the legal aspects of electronic data interchange*,(1994) O.J. L. 338/98 at 102.

not require the presentation of the 'General Declaration' and the 'Passenger Manifest' when the information contained therein can be acquired in an alternative and acceptable manner.[22] Hence, the language of the provision supports the use of an alternative electronically equivalent technique. It is noteworthy that a complete abolition of the passenger manifest and cargo manifest cannot be obtained, pursuant to their requirement established in the Chicago Convention.[23] *A priori*, the introduction of EDI methods could trigger the validity of computer-generated records as a question of evidence, which a large number of Contracting States may not yet be in a position to accept. The acceptance and treatment of computer-generated records in court procedures varies tremendously worldwide since there is no clear harmonisation. This may constitute a threat for automation endeavours in air transport. The law of evidence was based upon oral tradition, whereby witnesses were called to testify to what they actually had knowledge.[24] The advancement of technology would seem to create friction. However, it is safe to assert that the legal framework in developed countries has evolved in such a way to permit their discovery in legal actions. For instance, in the United States, Rule 34 of the Federal Rules of Civil Procedure was changed to permit the inclusion of information stored electronically as discoverable.[25] The Rule provides that any party may inspect and copy any designated documents and compilations from which information can be obtained.[26] Similarly Canada, through the *Personal Information Protection and Electronic Documents Act*,[27] has established that 'any person seeking to admit an electronic document as evidence has the burden of proving its authenticity by evidence capable of supporting a finding that the electronic document is that which it is purported to be.'[28] Unfortunately, a large number of countries are still reluctant to accept computer-generated records in court. However, since at present the development of such initiatives only includes their immersion in developed markets, the legal framework therein will most likely be ready to properly confront the emerging trends in air transport.

Chapter 3 tries to discourage Contracting States from requiring embarkation/disembarkation cards, which result in inconvenient delays for passengers and unnecessary, burdensome expenditures for airlines. Unfortunately, this ill-fated practice is still used by a large number of countries. Section IV deals with public health requisites compelling Contracting States to comply with the World Health Organisation regulations and practices. Finally,

22. See *Annex 9*, *supra* note 16, standard 2.5.
23. See *Chicago Convention*, *supra* note 6, art. 29 (f) & (g).
24. See C. Tapper, *Computer Law*, 4th Ed., (London: Longman, 1989) at 367.
25. See also J.H.A. Pooley & D.M. Shaw, 'The Emerging Law of Computer Networks: Finding out what's there: technical and legal aspect of discovery' (1995) 4 Intell. Prop. L.J. 57 at 68.
26. See Fed. R. Civ. P. 34.
27. See *Personal Information Protection and Electronic Documents Act*, S.C., 2000, c. 5, § 2.
28. See *ibid.*, § 31.1.

Chapter 3 talks about procedures for the inspection and control of persons, addressing the inspection of documents,[29] inadmissible persons,[30] deportees,[31] and the procurement of a replacement travel document[32] for the aforesaid cases. This section of Annex 9 also seeks to include selective inspection target methods, the use of multiple-channel inspection procedures, and the 'red and green' system for customs clearance of passengers.[33] The foregoing would remove low-risk passengers from the unnecessary torture they are currently exposed thereto.

Chapter 4 deals with entry (import) and departure (export) of cargo and other articles, and places particular emphasis on the introduction of electronic data-processing techniques for air cargo facilitation. The language of the provisions seeks to persuade Contracting States, international airline operators, handling companies, airports, cargo agents, and other authorities to exchange data electronically following the recommendations and formats of the United Nations Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT).[34] These recommendations comprise a set of internationally agreed-upon standards, directories, and guidelines for the electronic interchange of structured data with particular emphasis on trade in goods and services between independent, computerised information systems.[35] A suggestion to implement the Guidelines for Expedited Clearance of the World Customs Organisation placed on the Contracting States stresses the co-ordinating spirit of the provisions thereof. Contracting States shall undertake efforts to release all general cargo requiring solely normal inspection within four hours from the time proper documentation or a legally acceptable electronic equivalent is presented.[36] Additionally, Chapter 4 sets the procedures for handling containers, pallets, and their loads;[37] it defines the limitation of operators' responsibilities;[38] it advocates eliminating customs duties for the importation of aircraft equipment, stores, and parts in accordance with Article 24 of the Chicago Convention.[39]

One of the most overlooked parts of Annex 9, Chapter 5, focuses on traffic passing through the territory of a Contracting State and attempts to eliminate

29. See *Annex 9*, *supra* note 16, standard 3.39.
30. See *ibid.,* standard 3.42.
31. See *ibid.,* standard 3.52.
32. See *ibid.,* standard 3.54.
33. See M. McMunn, 'Aviation Security and Facilitation Programmes are Distinct but Closely Intertwined' (1996) 51:9 ICAO J. 7.
34. See United Nations Economic Commission for Europe, 'UN/EDIFACT Draft Directory' online: http://www.unece.org/trade/untdid/texts/d100_d.html (date accessed: 8 April 2001).
35. See *Annex 9*, *supra* note 16, standard 4.41.
36. See *ibid.,* recommended practice 4.29.1.
37. See *ibid.,* standard 4.35.
38. See *ibid.,* standard 4.41.
39. See *Chicago Convention*, *supra* note 6, Art. 24(b).

examination of crews, passengers, baggage, cargo, and mail whose final destination is another international port of entry. Similarly, this chapter contains an international standard aimed at abolishing the requirement of in-transit visas; however, national authorities can circumvent it by claiming special circumstances and public interest. Although one can understand the necessity of certain States requiring in-transit visas for 'special circumstances', it has also constituted a discretionary shield where some States shelter their greedy desire of generating extra income, leading to the formation of unnecessary hurdles that slow the flow of air passengers considerably. Likewise, Chapter 5 seeks to expedite the transfer of in-transit passengers having a connecting flight at the same airport; or at another airport. It also suggests the arrangement of the formalities of intermodality cargo traffic being transferred between air and surface transport, and finally it encourages Contracting States to develop free airports and free zones in accordance with Article 23 of the Chicago Convention. The *rationale* of the provision attempts to facilitate the movement of air traffic at connecting points by abolishing formalities to the maximum extent feasible, which has been shown to be of paramount significance in developing so-called 'hub airports'.

In addition to encouraging the exchange of all relevant flight information by EDI in accordance with UN/EDIFACT, Chapter 6 advocates ensuring *de rigueur* facilities and services, which are essential for the rapid handling and clearance of passengers, crews, baggage, cargo, and mail. Taking into account the previously mentioned statistics on significant, rapid air traffic growth, suitable management of adequate infrastructure remains indispensable. Passenger services charges should be levied by the airlines in ways that steer clear of lengthy queues at international airports. One major ICAO objective is to accomplish through its facilitation programme the completion of all departure formalities within 60 minutes for all passengers requiring no more than normal inspection on international air transport services, calculated from the time the passenger presents himself at the first processing point at the airport.[40] For incoming passengers, ICAO targets a 45-minute disembarking clearance, regardless of aircraft size or arrival time.[41]

Ideally, Contracting States should provide, *inter alia,* facilities and services for public health, emergency medical relief, animal and plant quarantine, child care, storage, physical transit and transfer areas for passengers and crews, monetary exchange, clearance controls and operation of control services, and cargo and mail handling clearance. However, the difference in terms of economic capabilities of Contracting States reflects another scenario, especially

40. See *Annex 9*, *supra* note 16, recommended practice 6.16.
41. IATA is trying to conclude agreements with different governments, ensuring that all possible formalities are abolished to comply with the 45-minute arrival clearance timeframe. See M. Momberger, 'Speeding Up Air Travel on the Ground' *Airport Forum* XXV:3 (June 1995) 32.

in developing countries where there is sometimes the will to comply with standards, procedures, and suggestions, but where a lack of financial means prevents the achievements of these significant recommendations. Addressing the issue of aircraft landing in other places than at international airports, Chapter 7 aims at commanding Contracting States to ensure that all possible assistance and applicable procedures have been rendered to an aircraft that for reasons beyond the pilot-in-command has landed elsewhere. Chapter 8 addresses other facilitation provisions, such as bonds and exemption from requisition or seizure, facilitation of search, rescue, accident investigation and salvage, relief flights following natural and man-made disasters, marine pollution and safety emergency operations, facilitation of the transport of passengers requiring special assistance, and last but not least, the implementation of national facilitation programmes.[42] These programmes promote the removal of obstacles and delays in the movement of aircraft, crews, passengers, cargo, mail, and stores. In addition, Chapter 8 foresees the creation of a National Air Transport Facilitation Committee and an Airport Facilitation Committee for purpose of co-ordinating facilitation activities, projects, and objectives.[43] The gathering of participants must include, but not be limited to, *inter alia,* air carrier operators (including forwarders and express carriers), civil aviation authorities, airport authorities, government clearance agencies (including customs, immigration, consular, passport and visa, public health, agriculture, security and narcotics control), and other government agencies not directly related to air transport (as is the case of postal services, tourism, and trade departments).[44] The full implementation of the national facilitation programme seems to be the best legal vehicle for players to propose their initiatives, make inquiries, and formulate suggestions to ultimately achieve the desired ease in the flow of air traffic components.

3. Automation Initiatives

This section will analyse some of the automation initiatives undertaken in the aviation industry such as the Machine Readable Travel Documents, Advance Passenger Information Systems, US INSPASS and CANPASS, and the use of biometrics, describing their major features and whether they are in accordance with the Facilitation Programme established by ICAO.

42. See *Annex 9*, *supra* note 6, standard 8.17.
43. See *ibid.*, standard 8.19.
44. See *ibid.,* app. 12.

3.1. Machine Readable Travel Documents

Pursuant to the mandate bestowed by Article 37 of the Chicago Convention, ICAO, through its Facilitation Division, has been particularly keen on developing international standards and recommended practices for customs and immigration procedures through the implementation of studies on travel documents. Besides facilitating the flow of passengers through numerous formalities, these projects have ultimately been aimed at obtaining from Contracting States the waiver of passports and visas, accepting 'travel cards', 'non-immigrant cards' or 'international passenger cards' in lieu thereof.[45] Needless to say, this objective remains somewhat unattainable on a global basis, particularly considering the varied distribution of wealth globally and its remarkable consequences on immigration, problems that create a myriad of issues considerably difficult to manage, even for powerful countries such as the United States. Annex 9 of the Chicago Convention strongly encourages Contracting States to implement Machine Readable Travel Documents (MRTD), *inter alia,* passports,[46] visas, crew member certificates, and the Advance Passenger Information System (API). Thus, ICAO elaborated the idea of a Machine Readable Passport (MRP). Legally speaking, a passport *per se* is an official document capable of having legal consequences that denotes the identity and nationality of a person, thereby assuring to the State of destination that the bearer is eligible for return to the State that issued the passport.[47] Conceived with a dual function, an MRP possesses a machine-readable zone, enabling a rather rapid machine clearance, quick verification, and immediate recording of the personal data contained therein.[48] Ideally at the passport control unit, the agent places the passport face down and swipes it through the scanning device; the data is then automatically transmitted to the authority's computer system. Additionally, an MRP also encompasses a descriptive, visual zone with all the data of the passport holder in case the passport control authorities do not have the scanning machines or the proper software to fully undergo clearance with an MRP.

ICAO published the first specifications and guidelines on the construction of MRPs in 1980, especially clarifying the sections of the documents containing

45. See R.I.R. Abeyratne, 'The Development of the Machine Readable Passport and Visa and the Legal Rights of the Data Subject' (1992) XVII AASL, Vol. II,. L. 1 at 2.
46. *Annex 9* suggests to Contracting States that passports be rapidly expedited and valid for a period of at least five years, and that joint passports for two spouses be avoided. See *ibid.,* recommended practice 3.5.3, 3.5.4 & 3.5.8.
47. See ICAO, *International co-operation in protecting the security and integrity of passports*, Assembly Resolution A32-18 (1998), online: http://www.icao.int/icao/en/res/a32_18.html (date accessed: 8 April 2001).
48. See Abeyratne, *supra* note 45 at 6.

details of the holder.[49] Subsequently, the Technical Advisory Group on Machine Readable Travel Passports (TAG-MRTP) was established in 1984. A year later, the International Standard Organisation (ISO) adopted those specifications and guidelines.[50] Nevertheless, understanding that it is not yet feasible to achieve worldwide use of MRPs, ICAO has only recommended their use in Doc. 9303,[51] as opposed to imposing a more stringent implementation through an international standard. ICAO has strongly suggested that Contracting States standardise the personal identification data included in their passports with the specifications and guidelines enclosed in ICAO Doc. 9303, even when they are not machine readable.[52]

Later in 1991, ICAO renamed the Technical Advisory Group on Machine Readable Passports (TAG/MRP) the Technical Advisory Group on Machine Readable Travel Documents (TAG/MRTD), expanding its scope to include the development of guidelines and specifications for Machine Readable Visas (MRV).[53] Undoubtedly, ICAO hopes to eliminate the requirement of visas as much as possible;[54] however, since numerous Contracting States may still require the presentation of visas, ICAO has recommended their adoption in a machine-readable form.[55] Although only a small number of countries have successfully experimented with implementing machine-readable visas, the results have been quite positive, considering the capability of a rather instantaneous clearance of visitors.[56] In 1997, ICAO Doc. 9303 Part 2 received international certification from the ISO.[57] Subsequently, with the advent of globalisation and regional markets such as the European Union, leading to the emerging use of various forms of official identity documents for travel purposes, *inter alia,* US resident alien cards, Latin American identity cards, and electronic European identity and travel documents. Some States, such as the Netherlands and Finland, have undertaken considerable efforts seeking to implement the use of smart cards as electronic identification cards, which could eventually be used

49. See ICAO, *Machine Readable Passport*, ICAO Doc. 9303 Part 1, (1st Ed. 1980). However, ICAO has already published the fourth edition on machine readable passport, see ICAO, *Machine Readable Passport,* ICAO Doc. 9303 Part 1, (4th ed.) 1999.
50. See ISO, *Identification Cards – Machine Readable Travel Documents – Part 1: Machine Readable Passport*, Doc. 7501, *(*3rd Ed. 1997).
51. See *Annex 9*, *supra* note 16, recommended practice 3.5.1.
52. See *ibid.,* standard 3.4.1.
53. Like MRPs, MRVs contain both a machine-readable zone and a visual zone; the scanning data process is also the same as for MRPs.
54. See *Annex 9*, *supra* note 16, recommended practice 3.7.
55. See *ibid.,* recommended practice 3.8.1.
56. See ICAO, *Machine Readable Travel Documents - Machine Readable Visas*, ICAO Doc. 9303 Part 2, (2nd Ed. 1994).
57. See ISO, *Identification Cards - Machine Readable Travel Documents - Part 2: Machine Readable Visas*, Doc. 7501-2, (2nd Ed. 1997).

on a regional basis, replacing the use of a passport. The possible expansion of electronic identification smart cards decreases with the participation in air transport of less developed countries.

Within the same trend, ICAO has established guidelines and specifications for the creation and respective layout of machine-readable crew member certificates, which might be used for travel purposes by air crew members (both flight crews and cabin attendants) in lieu of passports or visas, leaving crew licences to serve their primary purpose, to attest to crew members professional qualifications.

Unarguably the use of MRTDs have a myriad of advantages, *inter alia,* the enhancement of security, avoiding to a certain extent travel documents counterfeiting, forgery, and alteration,[58] the almost instantaneous verification and recording of data, the smooth immigration clearance of low-risk passengers, the elimination of landing forms, and the ability to handle increased airport capacity.[59] Notwithstanding the grandiloquent ICAO achievement with respect to MRTDs in terms of creating the necessary specifications and guidelines to harmonise international standards, there still remain a large number of countries not in a position to follow these 'automation trends'. Until a global degree of uniformity is achieved, there is still territory for the Facilitation Section of ICAO to conquer.[60]

3.2. Advance Passenger Information (API)

The Chicago Convention enunciates that every aircraft engaged in international navigation transporting passengers shall carry a list with their names and place of embarkation and destination.[61] Hence, bearing in mind the aforesaid international obligation, but aiming at simplifying formalities, ICAO has been in favour of eliminating as much paperwork as possible in this respect. One way of accomplishing such goal is by transmitting such data by means of EDI, which is contemplated in Annex 9.[62]

Originally a US Customs programme, the API has been designed to expedite

58. Nevertheless, MRTPs are by no means immune to those risks. Concerns about the security and integrity of passports have been expressed at ICAO. See ICAO, *supra* note 114. See generally J. Nicol, 'Passports for Sale' *Maclean's* (3 April 2000) 16.
59. Another significant accomplishment in developing MRTDs has been the standardisation of the use of different alphabets worldwide, and the limitation to a certain number of characters for extremely long names.
60. Although there are currently no official figures on compliance with the MRTDs recommendations, unofficially ICAO believes that around 109 Contracting States have issued or are planning to issue MRPs in accordance with the technical specifications of Doc. 9303 Part 1; 24 Contracting States have issued MRVs and 6 have issued crew member certificates.
61. See *Chicago Convention*, *supra* note 6, Art. 29.
62. See *Annex 9*, *supra* note 16, standard 2.5.

the processing of passengers arriving in the United States, enhancing the control of such threats such as national security and drug trafficking.[63] At passenger check-in, airline operators input the passenger information into their computer system as enclosed in the machine-readable zone of the passport. Then, while the aircraft is still in flight, the information is sent to the centralised Customs System Unit for verification against inter-agency databases and lookout lists. The results are distributed to Immigration and Customs prior to the arrival of the flight. Once the passenger presents himself at the Passport Control Unit, through the so-called expedited ABlue line, the passport is scanned through API reader devices to verify the data originally input. API Systems remarkably reduce time, eliminate queues, confer examining authorities with extra time, and grant the airline passenger a specific expedited 'premium service' immigration clearance line, thereby smoothing traffic flows.[64] Hence, ICAO has been in favour of recommending that its Contracting States implement API Systems and that in doing so they join the World Customs Organisation (WCO)/IATA Guidelines on API.[65] Although they have numerous benefits, API Systems are still quite onerous if one considers the computer software, hardware, and the training of the personnel involved; this makes its worldwide use and acceptance far from being completely accomplished.[66]

The legal relationship between the US Government and air carriers is established through the signing of a Memorandum of Understanding (MOU), which 'outlines mutual goals for improving passenger processing'. Despite the mutual interest in achieving such goals, one can rightly question the degree of enforceability of an MOU, which is indeed a gentlemen's accord *per se*; but not yet a binding contract. Should the air carrier not comply with the data quality performance standards established therein, the US Government simply reserves the right to cancel its inclusion in the API programme. The MOU represents somewhat of a gathering of efforts but with no real legal compromise.

63. On 1 April 1998, Customs, the Immigration and Naturalisation Service (INS), the Animal Plant Health Inspection Service (APHIS), and 39 air carriers concluded a Memorandum of Understanding (MOU) to establish a written set of data quality standards for the Advance Passenger Information System (APIS). See US Customs, 'Advance Passenger System' online: http://www.customs.gov/impoexpo/tools/archives/vol2n01/moujul.html#top (date accessed: 8 April 2001).
64. See ICAO, 'Facilitation, Advance Passenger Information' online: http://www.icao.org/ico.en/atb/fal/api.html (date accessed: 16 February 2001).
65. See *Annex 9*, *supra* note 16, recommended practice 3.14.2.
66. As of 23 June 2000, 66 air carriers have signed the Advance Passenger System MOU, tantamount to 78% of all non pre-cleared international passengers. See US Customs, 'U.S. Customs Service Goals for the Year 2000 – High Impact Agency Initiative' online: http://www.customs.gov/about/hi-impact.html (date accessed: 16 February 2001).

The processing of passenger data through EDI[67] in the API System tackles several other legal matters of supreme significance, particularly for third parties. The first one, although not purely legal, is concerned with the security of the information handled therein, avoiding any possible intrusion causing alteration, destruction, or data loss thereof. The idea is to provide an 'end-to-end' secure environment where trading partners can normally perform their business transactions.[68] It is reasonable to assume that the MOU in question will contain provisions addressing the parties' interests in ensuring the integrity and due care of data processed. This would reflect the necessity for adequate technological system infrastructure in order to grant the mandatory information confidentiality thereof.[69] Most likely the parties will mutually agree not to disclose or transmit the data to any unauthorised persons, nor to use the information for any purposes other than those originally intended by the parties. Secondly, using EDI creates an overt concern regarding the inexorable question of privacy.[70] One can safely question to what extent a non-binding, non-committal, non-enforceable MOU can guarantee adequate data privacy protection of individuals, the third parties thereto, who ultimately could be affected by privacy infringements causing damages to them.[71] Thirdly, the transmission of data from country to country triggers the applicability of transfer of data protection laws, which may substantially differ among different nations.

3.3. Biometric Scanning

Annex 9 vigorously encourages Contracting States to promote the internationally standardised formats for biometrics in travel documents to achieve a more accurate level of identity verification, thereby reducing the risk of fraud.[72] This

67. The European Commission has made some legal recommendations with respect to EDI. The recommendation was supposed to remove uncertainty arising from the use of EDI. Hence, the Commission created a Model European Legal EDI Agreement, which comprises a set of model provisions. See EC, *Commission Recommendation of 19 October 1994 relating to the legal aspects of electronic data interchange*, (1994) O.J. L. 338/98 at 110.
68. J. Sherwood, 'EDI Security' in B. Welch, ed., *Electronic Banking and Security*, (Cambridge, Massachusetts: Blackwell Publishers, 1994) at 164.
69. The European Community, expressing some concerns about the security of information systems, has recommended a comprehensive revision of their vulnerability, and an assessment of the risk of breaches thereof. See EC, *Council Decision of 31 March 1992 in the field of security of information systems*, (1992) O.J. L.123/19 at 23.
70. See A. Piera, 'The Protection of Privacy in International Air Transport' 2000 XXV *AASSL*, 183-207.
71. Although beyond the scope of this article, the non-enforceable MOU also raises the question of the signatories' legal responsibility and liability in cases of misuse of personal data that may eventually cause damages to third parties.
72. See *Annex 9*, *supra* note 16, recommended practice 3.5.10.

could dramatically hasten the identification of the document holder.[73] As a process of human recognition, biometrics represent an automated measuring method through which an individual's unique physical characteristic or personal trait is compared to that characteristic or trait previously stored in the database for personal recognition of that individual.[74] Similarly, the International Biometric Association (IBA) defines 'biometrics' as 'a measurable physical characteristic or person-related behaviour that can be used to automatically ascertain a person's identity, or to verify the submitted identity of a person'.[75] Furthermore, biometrics unique characteristics are two-fold:

1. Behavioural characteristics, including dynamic habits such as voice pattern and signature. Although stable in nature, their features are subject to change.
2. Physical characteristics, encompassing facial features, retinal vein pattern, iris pattern, heat pattern in the face, ear shape, hand geometry, personal body odour, vein measurement, finger imaging.[76] These features are theoretically not subject to change.[77]

Biometric scanning is the method of automatically asserting to an individual's identity through a computer system containing previously collected biometric measurements.[78] The first step of the process comprises the collection of a unique biometric characteristic of an individual, obtained with his or her own consent. During the collection process, the data capture device must remain free from any external interference, thereby ensuring a non-contaminated environment. Once the information is collected, it is stored in the computer system, which generates a

73. See *Annex 9*, *supra* note 16, recommended practice 3.5.10. Similarly, ICAO has undertaken several studies examining the feasibility of including biometrics into its machine-readable travel documents. See ICAO, *Amendment to informative annex on machine assisted document security verification,* WP/8 presented at TAG-RT/11; 1-3 September 1999; ICAO, *Enhancement of specifications of displayed feature(s) on MRTDs,* WP/10, presented at TAG-MRTD/11, 1-3 September 1999; ICAO, *Request for information – Biometric recording and verification technologies, machine verification technologies and document security devices,* WP/9 presented at TAG-MRTD/10, 18-20 February 1998.
74. See J.D. Woodward, 'Biometric Scanning, Law & Policy: Identifying the Concerns-Drafting the Biometric Blueprint' (1997) 59 *U. Pitt. L. Rev*. 97 at 99, citing B. Miller, *Everything You Need to Know About Automated Biometric Identification*.
75. See J. Van Arkel & A. van der Tuin, 'Who Did You Say You Were' in F. Knopjes & P.J. Lakerman, eds., *Chip Card: Trump Card?* (Netherlands: National Criminal Intelligence Division, 1999) 117 at 124.
76. See generally L.C. Jain, U. Halici & I. Hayashi, eds., *Intelligent Biometric Techniques in Fingerprint and Face Recognition* (Portland: Press International Series on Computational Intelligence, 1999).
77. See E. Bovelander & R. van Renesse, 'An Introduction to Biometrics' in F. Knopjes & P.J. Lakerman, eds., *Chip Card: Trump Card?* (Netherlands: National Criminal Intelligence Division, 1999) 13 at 19.
78. See Woodward, *supra* note 74 at 100.

digitised code for the unique biometric characteristic; this code can also be transmitted to a smart card. In this case, the individual approaches a reading device where the system prompts him to insert his smart card and provide the biometric characteristic as well; hence, the identity of the individual is verified against the database, answering the question 'Are you who you claim to be?'[79] This process could be an invaluable tool for speedily authenticating the identity of persons in numerous fields. In the air transport sector, passengers could use biometric scanning at immigration passport control lines and customs queues, speeding up the pace of air traffic flows considerably. Despite the advantages, the development of biometric measurement devices embedded in smart cards raises numerous concerns worth analysing. Firstly, a large number of commentators have noted that biometrics produce a negative public reaction when the individual is asked to be scanned for the purpose therein pursued; hence, there is a psychological acceptance factor, the so-called social stigma, that institutions undertaking such projects cannot ignore.[80] Consequently, one of the key issues when implementing biometric initiatives is to develop a user-friendly system to avoid their social rejection by users.[81] Particular attention should be given to selecting the type of biometric measurement device to be applied, which should be based on its intended use. Secondly, as noted by some commentators, biometrics may compromise the physical and information privacy of the individual.[82]

3.4. US INSPASS and CANPASS Programmes

The US Immigration and Naturalisation Service has been experimenting with automation procedures for purposes of inspection attempting to speed up customs and immigration procedures.[83] Within this context, the US Immigration and Naturalisation Service introduced the INS Passenger Accelerated Service System (INSPASS) as a pilot programme at JFK Airport in May 1993. By granting other means of expedited self-inspection without human intervention, the main objective of the pilot programme has been to remove frequent business travellers, considered to be low-risk passengers, from inspection lines, thereby accelerating the flow of traffic. Additionally, the programme combines an INSPASS card the size of a credit card, with a hand geometry biometric image

79. *Ibid.*
80. See J.J. Killerlane, III, 'Finger Imaging: A 21st Century Solution to Welfare Fraud at our Fingertips' (1995) *Fordham Urb. L.J.* 1327; Woodword, *supra* note 74 at 102.
81. See L.J. McGuire, 'Banking on Biometrics: Your Bank's New High-Tech Method of Identification May Mean Giving Up Your Privacy' (2000) 33 *Akron L. Rev.* 441 at 446-448 (expressing the social concern of the implementation of biometric identifiers in the banking industry).
82. See *ibid.,* at 480.
83. See R. Hays, 'INS Passenger Accelerated Service System (INSPASS)' *Biometric Consortium* online: http://www.biometrics.or/epots/inspass.html (date accessed: 8 April 2001).

containing the passenger's physical characteristics.[84] This biometric measurement includes a three-dimensional record of the hand or fingers, which is then converted into a less than 10-byte digitised code. The passenger is required to pass through an INSPASS kiosk similar to an ATM. After inserting his card into the kiosk, the system prompts the passenger to align his hand in the hand geometry reader for identity verification. Then the system proceeds to match the identity of the passenger through biometric authentication. If the identity is validated, the kiosk prints an I-94 form receipt for the passenger. Subsequently, the gate opens and the passenger continues on his journey. The entire process takes between 15 to 20 seconds. The INSPASS programme is only open to citizens of the United States, Canada, Bermuda, and Visa Waiver Pilot Programme (VWPP) countries travelling to the United States on business for visits of no longer than 90 days, three or more times a year, who do not possess criminal records. The programme is only offered at certain US airports.

Similarly and as a consequence of the Canada/United States Accord on Shared Borders, CANPASS has been launched in an effort to facilitate and promote tourism and trade, but solely between those two countries.[85] Although bearing the same objective as its US INSPASS equivalent, which is to streamline customs and immigration clearance for low-risk passengers, CANPASS only targets citizens or permanent residents of Canada and citizens or resident aliens of the United States.

4. Global Assessment of Automation Initiatives in Facilitation of Air Transport

Endeavours to implement automation in facilitation of air transport characterise a superlative effort currently undertaken by numerous industry players. This article acknowledges such a significant accomplishment, which is indeed crucial for the interest of continuing the development of the industry to confront emerging trends of air traffic growth. However, it has been said previously that most of these initiatives, particularly the ones carried out by the private sector, only target specific markets for a rather elite type of passenger, hence, lacking massive global application. Indisputably, ICAO's MRTDs programme has achieved a large degree of worldwide compliance. However, unless financial assistance is provided to a large number of developing countries, full implementation of MRTD will not be accomplished in the near future. On the

84. See Department of Justice Immigration and Naturalization Service, 'INS Passenger Accelerated Service System' online: http://www.ins.usdoj.gov/graphics/publicaffairs/factsheets/passfs.html (date accessed: 8 April 2001).
85. See Canada Customs and Revenue Agency, 'CANPASS – Airport Extending Border Services' online: http://www.ccra-adrc.gc.ca/E/pub/cp/rc4062ed/rc4062ed.html (date accessed: 8 April 2001).

other hand, one can certainly question to what extent the entrepreneurial sector is keen on developing automation devices that could be implemented in a larger number of markets, rather than concentrating solely on the most profitable ones. Undoubtedly, developing countries will rarely be included in these initiatives because of the enormous financial difficulties they are experiencing at present. This article sustains the idea that the endeavours herein described could be considerably implemented in developed markets on a regional basis, especially European electronic identity cards, which are not oriented to a selective group of users. Its application could then reach a larger number of persons involved. Consequently, its result could considerably have an impact on these automation initiatives. The US INSPASS and CANPASS programmes will most likely continue to be elitist, primarily because the United States and Canada face tremendous immigration problems that could thwart the success of these endeavours should they be implemented on a larger scale. Another major threat to these initiatives is the risk of creating a fragmented automation environment similar to the frequent flyer mileage cards, where there is a total lack of interactivity, creating for the passenger the inconvenience of having to carry along numerous different cards from different service providers. Unless harmonisation is achieved in this respect, these initiatives will miss the opportunity of reaching their intended objectives, thereby not achieving global application. The foregoing supports the argument that by implementing these automation initiatives, facilitation in air transport will be achieved to a substantial degree, but the presence of formalistic and bureaucratic procedures at immigration and customs controls will still remain on a global basis, because a large number of countries continue to view those requirements as part of their sovereignty and *potestas*.

5. Conclusion

The inexorable traffic growth that the air transport sector is currently experimenting – expected to triple in the next 20 years – has become a mandatory and unavoidable concern that all the players involved must have on their agenda in order to confront the emerging, challenging demand of the industry. All the initiatives herein described attempting to introduce automation procedures and mechanisms to facilitate the flow of traffic constitute valuable tools seeking to achieve such goals. The Chicago Convention and Annex 9 unarguably provide the necessary legal framework wherefrom these endeavours could obtain their foundation. However, the flaw of the systems lies in the fact that there is no strict mechanism to apply corrective measures when a non-compliance situation emerges. ICAO has rather been focused on checking the compliance with the provisions contained in the Annexes 1, 6 & 8, through the assessment of the Safety Oversight Audits performed amongst its members. These Annexes deal primarily with safety issues, and are only conducted with the approval of the

audited Contracting State. It is reasonable to foresee that the provisions contained in Annex 9 will be the last to form part of ICAO's oversight audit programme.[86] Another major hurdle – seemed sometimes as an insuperable one – constitutes the disparity of financial capabilities among Contracting States. Unless an international institution or mechanism is established attempting to provide developing countries with the necessary funding to carry out the requirements contained in Annex 9, the degree of compliance with those provisions will always be fractional.

86. See also ICAO, *Establishment of an ICAO universal safety oversight audit programme*, Assembly Resolution A32-11 (1998), online: http://www.icao.int/icao/en/res/a32_11.html (date accessed: 8 April 2001).