Air Transport Security

2040 and Beyond


IATA
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Introduction

In June 2019, IATA hosted a Blue Skies industry forum at the EUROCONTROL headquarters in Brussels that brought IATA's security Strategic Partners, member airlines, airports, regulators, manufacturers, industry experts and academics together to discuss the future of broad aviation security strategies, as well as the types of threats and new challenges that may be faced in the coming years.

The outcomes of the forum culminated in the production of this White Paper.

The predictions and views expressed in this paper are therefore not necessarily those held by IATA, but rather reflect the topics and trends identified by the participants as possible realities and challenges the industry may face.

This White Paper is issued as a Version One and will evolve along with industry's thinking in the coming years. Its aim is to stimulate discussion within and across the sector and all its actors, ideally to facilitate further development and innovation to help industry and wider stakeholders better prepare and respond to the known threats of today and the unknown, evolving or emerging threats of tomorrow.

Executive Summary

The practical realities of the way Aviation Security measures are implemented and evaluated have seldom changed in recent decades. This is specifically the case when compared to the rate of change and innovation experienced in other parts of the sector. New approaches in the way technology and processes have been introduced continue to improve the safety commitment to the traveling public, yet we still deal with known threats and risks in fundamentally the same way – new and/or additional layers of screening/security. But how about the unknown threats, or the ones that are only beginning to emerge and/or make a noticeable impact?

Arguably, today's ICAO Annex 17 baseline has successfully defended the industry against a repeat of the same form of attack; but does today's baseline provide meaningful defence and perhaps deterrence against the unknown or rapidly evolving threat vectors of tomorrow?

With many believing passenger numbers will continue to grow year-on-year, infrastructure capacity constraints becoming more commonplace, new security threats emerging, and rising expectations from passengers, consumers and investors to evolve the way we do business, there is little choice but to rethink our current approach. Moreover, we should at least take the time and effort to evaluate where we are on the spectrum of change and posit a path in those areas of improvement where required.

The physical security overlay we know today is unlikely to disappear entirely. Arguably, it is an essential base layer to build resilience into our system and to help mitigate the threats that we do not yet know about. However, increasingly, security may become an amalgamation of measures, some physical and others virtual; those that happen at the airport, and others that start as soon as passengers/consumers place an order to travel or ship goods. This evolution of security controls needs to be considered in the context of the future we may be faced with.

In 2040 our lives will be more connected – with a greater reliance on data and automation. The world will continue to change – geopolitically, environmentally and economically. The industry too will change and evolve, becoming increasingly efficient, multimodal and optimized through new levels of connected information. This type of future brings with it numerous opportunities to improve the way we do business. But it also opens us up to new vulnerabilities and greater exploitation of those that already exist.

What is clear, is that the domain of aviation security is perhaps not evolving fast enough. Especially if we are ever going to be viewed as not just a necessary overhead in cost but a silent enabler to growth, connectivity and stability. And thus, without self-evaluation and without organizations taking the time to theorize and challenge legacy tenets, complacency and institutional biases are themselves risks to the industry.

Technology is one part of the solution, but it is not the only one. We need to fundamentally change our thinking and consider how we protect the industry and ensure that the measures we are putting in place are protecting us from the most likely and plausible threats. Measures at airports are an important layer, but they will do little to protect us if future threats come from the sky for example.

While being cognisant of what we need for today, we must start to consider what approaches and mitigation strategies exist to tackle new threats, especially those that need to be urgently developed in the coming years to ensure we stay ahead, or at least in step with, our adversaries – not all of whom may be directly targeting aviation and/or wishing to intentionally cause physical damage or potential loss of life. For example, economic threats could be directly or indirectly the result of climate change and/or activism in many forms and across a wide and diverse range of issues.

At a high level there are several key steps that can help industry better prepare and respond to threats, including improving our agility, resilience and collaboration as well as our approach to regulation and standards development. And, for those threats that are already well known, there is more that can be done. In particular, better investment in technology, improved systems design, contingency planning, mental health support, and improved situational awareness, not least in respect of issues that often revolve around social media and/or new generational causes or concerns that may lead to aviation impacts that may not traditionally have been viewed, and reacted to, from a threat scenario perspective. But will it be enough?

In 2020, building on the work already achieved in 2019, IATA will host a second Blue Skies Industry forum. Participants will again be asked to think-outside-the-box, with the emphasis in 2020 on potentially new, innovative and/or radically alternative mitigation strategies to the evolving vulnerabilities and threats previously identified – those mitigation actions and strategies that we already have, and those that will need to be developed.

This means that innovators, disruptors, academics, activists and manufacturers from within the sector, and importantly from outside it, will be essential participants in this exercise. In addition, it will be critical to the success of the forum to ensure generational and/or aspirational differences are recognised and represented e.g. Generation Z, millennials and others must be actively encouraged to constructively participate. Without their support today, it is unlikely we will be ready to face the reality of tomorrow and deliver on the fundamental promise of the industry to provide safe, secure and relevant air transport to citizens of the world – particularly where an increasing percentage of those citizens are aged under 25 or have yet to even be born.

Three Key Questions

1

What will the future look like?

What will be happening in our world in 2040 – politically, economically, socially – and how will this have impacted the growth and development of the aviation sector?

2

What will the threats to aviation security be in 2040?

Will existing threats evolve and manifest in new ways, or will entirely new threats emerge that challenge the security and economic viability of the air transport sector?

3

How will we mitigate the risks?

How do we plan intelligently for the future today and ensure we are ready and effective in our capabilities to face the challenges of 2040?

Changing geopolitical dominance and increased societal engagement.

Increasingly connected, driven by data, new technologies and rising service expectations.

Sustainable, seamless, multimodal transport will be the norm for many and the aspiration for the rest.

Traditional threats such as cyber, insider, and terrorism will remain.

Activism, mental illness, unmanned vehicles and biological threats and infectious disease will be an increasing focus for the security sector.

Agility, trust, standards, capacity building, strategic use of human resources and sensible regulation will be central to mitigation strategies.

Targeted, threat specific measures will also be important.

Full White Paper available for download at

https://www.iata.org/whatwedo/security/pages/blueskies.aspx


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