Chapter 11

The Evaluation of Wireless Communication Devices: To Improve In-Flight Security Onboard Commercial Aircraft

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ABSTRACT

Today, wireless technology forms the communications backbone of many industries—including aviation, transportation, government, and defense. Security breaches since 9/11 have confirmed the need for a discreet wireless communications device onboard commercial aircraft. Real time, discreet communication devices are needed to improve communication between the pilots, flight attendants, and air marshals—a concept that is essential in today’s age of terrorism. Flight attendants and Federal Air Marshals (FAMs) need to be able to alert the flight deck discreetly of such dangers, and thereby pre-warn the pilots of possible attempts to enter the flightdeck or security breaches in the cabin.

This chapter will study the effectiveness of discreet, secure, hands-free, wireless communications methods for enhancing coordination during security incidents among cabin crewmembers, between the cabin and flight compartment, ground support personnel. It will identify breakthrough technologies to mitigate the likelihood of individual radical and/or violent behavior, resulting in catastrophic airline casualties, to improve communications and overall safety in-flight.

DOI: 10.4018/978-1-60960-887-3.ch011
INTRODUCTION

The United States is not the only nation with homeland security concerns nor is it the only one considering the solutions needed to address them. The International Transport Workers' Federation (ITF) recommends:

Airline operators equip cabin crewmembers with discreet, secure, hands-free wireless communications devices. Such devices would enhance communications between cabin and flight crewmembers, available law enforcement personnel including Federal Air Marshals (FAMS), and ground-based support staff, and thereby minimize the potential for a successful re-enactment of the terrorist attacks of September 11 2001 (ICAO, 2007).

To support the rapid and widespread adoption of this important terrorism prevention tool, the ITF invited industry and government security representatives to develop technical implementation plans for wireless communication devices on-board commercial aircraft.

As disclosed in a recent terror alert (Homeland Security News, 2008), Tanvir Hussain, Abdulla Ahmed Ali, and Assad Sarwar were found guilty of attempting a massive airline bomb plot—further pointing to airlines as targets for these types of terrorist attacks. The three British men were convicted of plotting to blow up flights from London to North America using bombs disguised as soft drinks. Additionally, defense experts agree that al-Qaeda is ‘still plotting’. Abdulla Ahmed Ali, 28, Tanvir Hussain, 28, and Assad Sarwar, 29, were found guilty at Woolwich Crown Court after the UK’s largest ever counter-terrorism operation. Their arrests in 2006 changed the face of air travel, thus exemplifying the fact that the United States does not have a monopoly on either the threats made to homeland security nor on the solutions needed to address them. This has prompted the introduction of restrictions on the carriage of liquids, pointing to the critical need for wireless alerting devices on board passenger carrying aircraft.

In China, passenger aircraft hijackings peaked in the 1990’s. In 1993 alone, there were ten flights hijacked across the Taiwan Strait. In order to deal with hijacking, the governments on both sides of the Taiwan Strait collaborated and passed very strict laws again such crimes. In the years leading up to September 11, 2001, pilots, and flight attendants were taught to comply with the hijackers’ demands, to get the plane to land safely, and let the security forces handle the situation. However, after the September 11, 2001 terrorist attacks, the U.S. and Chinese government, realized that this approach had to change. The crewmembers needed a more proactive operation to take control swiftly while not provoking the hijackers that could endanger themselves or other people. This global shift in thinking called for new procedures, training, and equipment.

In the United States, in a testimony before the U.S. House of Representatives (2007), Patricia Friend, International President of the Association of Flight Attendants CWA, A F L - C I O (AFA) stated:

The most basic necessity onboard a passenger aircraft is the ability to communicate quickly, efficiently and clearly between the cabin and flight deck crew. With pilots safely barricaded behind their reinforced flightdeck doors, and with instructions to limit exposure, it is crucial that a reliable and clear communication tool be provided for the aircraft crew to communicate with one another in an emergency (Friend, 2007, p. 7).

It is important to note that when various federal agencies conducted a mock terrorist attack onboard an aircraft in June of 2005, referred to as ‘Operation Atlas’ (Fleisher, 2005), the mock terrorists compromised and effectively disabled the interphone, thereby restricting communication between the cabin and flight deck, giving the mock terrorists ample time to kill and injure