

Airplane crash investigations: A Changing Era in Cyber Security

Abstract: *It was indeed a historic day, 17th December 1903, when the Wright brothers gifted mankind the opportunity to explore the skies with the power of flying .The aviation industry started to bloom with the proliferating number of flyers that includes both the elite and middle class people. Airplane technology being relatively new to man was fraught with imperfections leading to many flight crashes to the loss of potential human resources. Following these incidents it became vital for the global manufactures to prioritise safety. With many countries opting for air security board, America was the first one to have it in 1938 but it took till 1967 for the new Department of Transportation to be created with associate freelance National Transportation Safety Board. The main aim for these boards were to rigorously investigate and scrutinise all air mishaps and transportation accidents that happened till date and hence come up with public reports about it's findings to head towards creating a robust system in aviation that minimises the chances of technical or software failures. These findings were important in a way that it helped to regulate government policies ,set up manufacture standards and to enhance, Cyber security.*

Keywords: *Cyber security. Cyber forensics, airplane crash.*

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ABSTRACT

It was indeed a historic day, 17th December 1903, when the Wright brothers gifted mankind the opportunity to explore the skies with the power of flying .The aviation industry started to bloom with the proliferating number of flyers that includes both the elite and middle class people. Airplane technology being relatively new to man was fraught with imperfections leading to many flight crashes to the loss of potential human resources. Following these incidents it became vital for the global manufactures to prioritise safety. With many countries opting for air security board, America was the first one to have it in 1938 but it took till 1967 for the new Department of Transportation to be created with associate freelance National Transportation Safety Board.

The main aim for these boards were to rigorously investigate and scrutinise all air mishaps and transportation accidents that happened till date and hence come up with public reports about it's findings to head towards creating a robust system in aviation that minimises the chances of technical or software failures. These findings were important in a way that it helped to regulate government policies ,set up manufacture standards and to enhance cyber security.

1. INTRODUCTION

A large number of incidents clearly supported by cyber security breach came to light leading to the formation of a new safety board strictly dedicated to cyber security. But critics were doubtful on the success of board reason being the huge difference between pace of board's findings and improvement in technology .

Even though fearing challenges ,today cyber security board is successful with more and more nations being influenced to impose in stringent necessities on corporations that suffer information breaches, together with obligatory reportage of cyber attacks and a lot of rigorous preventive measures and promoting cyber peace

2. CYBER SECURITY

Cyber Security refers to protection of pc systems from the felony and injury to their hardware, software package or data, additionally as from disruption or of the services they supply. It additionally refers to techniques accustomed shield the integrity of networks, programs and information from attack, injury or unauthorized access. According by an estimate ,the global cyber security market is expected to touch 170billion\$ by 2020. The main function of cyber security

system involves protective data and shielding systems from major cyber threats. The aviation trade depends on laptop systems extensively in its ground and flight operations. The protection of the airline systems will directly impact the operational safety and potency of the trade, and indirectly impact the service, name and monetary health of the trade. Aviation industry is very vulnerable to attacks because of its excess reliance on radio transmissions which could be disrupted. The risks encountered in flying are frequently diminished by the experience of the professional pilot and knowledge, training of him. As new safety risks are found, the aviation community ensures to overcome these safety deficiencies through improvements to their aviation systems. The main component to the increased safety of aviation is the highly advanced onboard information technology (IT) systems, but on the other hand a cause for concern as the systems pose the potential of a possible cyber security which could impair safety of flight.

2.2 Cyber forensic

The cyber forensic experts use applications of investigations and analysis techniques to preserve evidence from a particular computing device that is suitable to be presented in court. Their main aim is to closely investigate and get to the question of “how” did that happen and who was responsible for it. After retrieving the computing device its digital copy is created on which further investigation is carried while original is preserved. A flight recorder black box is a device installed on airplanes to facilitate investigations in a case of accident. It contains all the recent history of flight by using recordings including conversations held in cockpit.

2.3 Air plane crash

The aviation trade is very important to the world economy that is stupendous enough to create an excellent economical and social consequence. It's several

layers overseeing the protection of all the stakeholders concerned, from craft makers to the rider boarding a flight hence an airplane crash can gain a lot to someone who desires to hit the economy and millions of hearts. Apart from deliberate attempts to crash a plane it can happen due to various possible reasons most likely being pilot error, mechanical failure, weather or being sabotaged by lightning. NTSB's crash investigation process includes eight points that are power plants, structures, operations, system, traffic management, weather, human performance, survival factors.

Conclusion

Critics of building a cyber security safety board would probably contend that the speed at that technologies amendment makes it troublesome for any recommendations, even though they were quickly enforced, to sufficiently defend organizations from cyber attacks. NTSB investigations will take a year or a lot of, to confirm findings were still relevant, cyber security inquiries would wish to be quicker, reminiscent of by streamlining cyber forensics and hoping on wide used tools reminiscent of the National Institute for Standards and Technology Cyber security Framework. Other challenges embrace standardizing nomenclature across the trade and distinguishing the correct specialists to appear into knowledge breaches, which could be easier aforesaid than done given the talent shortage among cyber security professionals.

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