

IdentityCare In the Air

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Introduction: What If the 9/11 Planes were Resistant to Hijacking?

The 9/11 attacks famously used hijacked commercial airplanes as weapons, turning them into large, guided missiles loaded with up to 11,400 gallons of jet fuel. Without hijacking, the dramatic crashes would have been averted. The resulting death toll would not have occurred, with no immediate shutdown of US airspace, heightened DEFCON status, economic interruption, and subsequent market reactions.

A 9/11 without successful hijackings would have saved thousands of lives and dramatically altered the course of global events and domestic policy for decades to come. Post-9/11 aviation security measures may never have manifested, from the creation of the TSA and DHS to the hardening of cockpit doors and enhanced screening at the airport. A dramatically different global geopolitical landscape would have affected the world order, with a less aggressive "war on terror" and a more moderate approach to national security. The toll of this terrible attack on the United States and the world is immeasurable.

Introducing IdentityCare

IdentityCare is a biometric attestation system for enterprise designed for Zero-Trust Architecture (ZTA). ZTA is a government recognized cybersecurity paradigm focused on resource protection and the premise that trust is never granted implicitly and must be continually evaluated. Per NIST 800-207, ZTA assumes an attacker is always present in the environment, and no environment is safe. Protections include minimizing access to only those authorized and continually authenticating and authorizing identity, explicitly authenticating and authorizing all subjects, assets and workflows.

IdentityCare is essentially a transaction credential for Zero Trust Architecture. This means that it is perfectly suited for attesting to all transaction/interactions between the pilot and the airplane and providing traceability within the airplane. IdentityCare is accurate and reliable enough to minimize errors, including false positives and false negatives, robust enough to resist spoofing attempts, and resistant to AI deepfakes. IdentityCare's biometric is also patented for how it protects user privacy and is compliant with European GDPR legislation.

Applied to aviation, IdentityCare enhances safety and security by accurately recognizing pilots, crew and passengers, as well as all maintenance crew. It enables keyless access for maintenance and operations, customized travel preferences, and automatic settings adjustments based on individual profiles, integrated directly into the passenger entertainment systems, authenticating each passenger as they take their seat. Additionally, it integrates with advanced airline safety features, leading to reduced fraud and theft of aircraft.

Most critically, a pilot incapacitation detection system could significantly enhance aviation safety by enabling automated emergency responses, such as autopilot activation and emergency communication with air traffic control. This system could also avert the tragedy of a 9/11 scenario, empower passengers, reduce anxiety, and provide medical monitoring and support for pilots.

Why Look to Zero-Trust Architecture in Aviation?

An airplane that could reliably attest to a pilot's identity could tailor its responses and suggestions based on the pilot's profile, greatly enhancing airplane safety and security and the overall flying

experience. **In the event of mid-flight attestation failure**, response protocols, including autopilot, emergency descent and autonomous landing systems could all be activated by a sudden loss of pilot attestation.

- **Automatic control activation:** The system could automatically engage or assist the autopilot to maintain a safe flight profile, preventing the aircraft from entering a dangerous state while the remaining crew deals with the emergency.
- **Automated control tower communications:** The system could initiate emergency communication with air traffic control (ATC), providing crucial information about the situation and enabling timely coordination of rescue efforts.
- **Emergency Descent:** An emergency descent system could be automatically engaged if the aircraft detects an unsafe cabin pressure altitude or pilot incapacitation, bringing the aircraft to a safe altitude for recovery.
- **Autonomous Landing Systems:** Systems like Garmin Autoland could automatically activate in case of pilot incapacitation. This would allow the aircraft to select the safest airport, navigate, communicate with air traffic control, and execute a safe landing without human intervention. This could potentially save lives and prevent accidents in emergency situations where the pilot is unable to control the aircraft.
- **Ground control assistance:** In certain situations, like single-pilot operations, the system could notify ground control (GSO) of the incapacitation, potentially allowing them to take over control or guide the aircraft to a safe landing.

If a universal attestation biometric could scan the pilot and ensure their identity, several possibilities emerge:

- **Reduced Premiums:** Insurance companies could potentially offer lower premiums for planes equipped with IdentityCare, as it provides verifiable proof that the aircraft is being operated by an authorized pilot.
- **Reduced Risk:** This technology would reduce the risk of theft and unauthorized use.
- **Preventing Identity Theft:** The system would make it difficult for fraudsters to impersonate policyholders or create synthetic identities to file fraudulent claims.
- **Improved Pilot Monitoring:** integrated systems could be used to monitor pilot behavior and tendencies (e.g., eye movements, tendencies over time or associated with day or night flying, etc.) and detect signs of fatigue, potentially preventing accidents.

In summary, an IdentityCare system could automatically engage the autopilot to maintain a safe flight profile, preventing dangerous hijacking situations such as 9/11. In the case of pilot compromise, the system could lock and disable flight controls, initiate an emergency descent, and activate an autopilot system for a safe landing. The adoption of an IdentityCare as part of a ZTA solution in aviation could significantly reduce anxiety for passengers and air crew, reduce insurance cost and fraud, and mitigate the threat of hijacking, keeping the collective fate of humanity on a more positive course into the future, and making travel great again!