

APPLICATIONS OF BLOCKCHAIN TECHNOLOGY IN THE US AIR FORCE SUPPLY CHAIN

Timothy Breitbach, PhD, Department of Operational Sciences, Air Force Institute of Technology, 2950 Hobson Way, Wright-Patterson AFB, OH, 45433, Timothy.Breitbach@afit.edu

Benjamin Hazen, Department of Operational Sciences, Air Force Institute of Technology, 2950 Hobson Way, Wright-Patterson AFB, OH, 45433, Benjamin.Hazen@afit.edu

Bradley Boehmke, Department of Operational Sciences, Air Force Institute of Technology, 2950 Hobson Way, Wright-Patterson AFB, OH, 45433, Bradley.Boehmke@afit.edu

Lauren Bramblett, Department of Operational Sciences, Air Force Institute of Technology, 2950 Hobson Way, Wright-Patterson AFB, OH, 45433, Lauren.Bramblett@afit.edu

ABSTRACT

Blockchain technologies such as bitcoin, ethereum and hyper ledger have proven to be effective tools for virtual currency, web-based ledgers, and validating transactions. Similarly, research suggests that blockchain has many supply chain applications as well, to include the enablement of smart contracts and virtual ledgers. Currently, the Air Force relies heavily on antiquated information technologies and hard-copies of historical records to manage purchasing and traceability of material. We propose blockchain technology applications to improve Air Force supply chain functions in terms of traceability, security, real-time tracking, and payment processing.

Keywords: Blockchain, Counterfeit Identification