Blockchain For Supply Chain Transparency

Blockchain Since each block contains information about the previous block, they effectively form a chain (viz. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data (generally represented as a Merkle tree, where data nodes are represented by leaves). Green, W. linked list data structure), with each additional block linking to the ones before it. Consequently, blockchain transactions are resistant to alteration because, once recorded, the data in any given block cannot be changed retroactively without altering all subsequent blocks and obtaining network consensus to accept these changes. , Mercedes tests blockchain to improve supply chain transparency Archived 24 August 2023 at the Wayback Machine, Supply Management, published 25 A blockchain is a distributed ledger with growing lists of records (blocks) that are securely linked together via cryptographic hashes ce2aa6a136

A blockchain... ce2aa6a136 According to the company founders, manufacturers lose billions of dollars as high-value products such as medicine, luxury items, diamonds, electronics, music, and software are counterfeited. Security companies use various technologies to address this issue in the block chain. Blockverify addresses this problem through its supply chain management solution based on blockchain by preventing duplicate appearances. The company uses its own private blockchain in its recording procedures but is also capable of using other blockchains such as Bitcoin. Through a decentralized platform, its technologies can be seamlessly integrated with existing supply chain processes. ce2aa6a136

Distributed ledger In contrast to a centralized database, a distributed ledger does not require a central administrator, and consequently does not have a single (central) point-of-failure. This distributed nature creates distinct trade-offs in terms of its affordances and constraints, particularly in interorganizational settings. Production Planning A distributed ledger (also called a shared ledger or distributed ledger technology or DLT) is a system whereby replicated, shared, and synchronized digital data is geographically spread (distributed) across many sites, countries, or institutions. "Blockchain technology affordances in the supply chains: a systematic literature review". Schumann, Sandy; Onofrei, George (2026-07-24) ce2aa6a136

Early applications of its technology included a blockchain-based food traceability system used to track pork supply chains, as well as a pilot project in eastern Taiwan that used sensors and data collection to monitor rice production. In 2017, the company launched OwlNest, a blockchain-integrated hotel management system designed to eliminate overbookings. OwlTing introduced its payment platform, OwlPay, in 2023, which supports both fiat and USDC-based transactions. ce2aa6a136 TradeTech seeks to reduce transaction costs for businesses, lower compliance costs, and increase efficiency and transparency for firms, regulators and consumers. The application of TradeTech results in new business models, applications, processes or products with an associated material effect on trade finance markets and institutions. ce2aa6a136 A supply chain is a system of activities involved in handling, distributing, manufacturing, and processing goods in order to move resources from a vendor into the hands of the final consumer. A supply chain is a complex network of interconnected players governed by supply and demand. ce2aa6a136 Blockchains are typically managed by a peer-to-peer (P2P) computer network for use as a public distributed ledger, where nodes collectively adhere to a consensus algorithm protocol to add and validate new transaction blocks. Although blockchain records are not unalterable, since blockchain forks are possible, blockchains may be considered secure by design and exemplify a distributed computing system with high Byzantine fault tolerance. ce2aa6a136 In 2025, the OBOOK Holdings... ce2aa6a136

Freight technology In the five years following 2014, investment in FreightTech companies grew from $118 million to $3 billion per year. technology offers a way to increase transparency across industry players at each step of the supply chain. Smart contracts, for example, can use information The freight technology sector, also known as FreightTech, refers to software companies and technologies which assist in supply chain management and the movement of freight ce2aa6a136

The shipping and logistics industry has long been viewed as conservative and slow-to-change, in part due to complex relationships within global shipping and transportation networks, difficult documentation and customs requirements, lack of transparency among involved parties, and obstacles to adapting quickly to sudden economic changes. ce2aa6a136 == Disruption of traditional logistics and supply chain management == ce2aa6a136 ChromaWay traces its origins to the development of Colored Coins, an early protocol that enabled for users to issue their own tokens on the Bitcoin blockchain. ChromaWay's co-founder Alex Mizrahi was a lead developer of the Colored Coins project, which laid the foundation for blockchain-based asset tokenization. ce2aa6a136

Supply chain attack A supply chain attack is a cyber-attack that seeks to damage an organization by targeting less secure elements in the supply chain. A supply chain attack A supply chain attack is a cyber-attack that seeks to damage an organization by targeting less secure elements in the supply chain. Symantec's 2019 Internet Security Threat Report states that supply chain attacks increased by 78 percent in 2018. A supply chain attack can occur in any industry, from the financial sector, oil industry, to a government sector. A supply chain attack can happen in software or hardware. Cybercriminals typically tamper with the manufacturing or distribution of a product by installing malware or hardware-based spying components ce2aa6a136

== Characteristics == ce2aa6a136 Recent developments in freight technology are working to modernize and simplify freight transport. According to a report from the U.S. Department of Transportation, intelligent freight technologies have multifaceted benefits in shipping and logistics. These include increased operational flexibility and efficiency due to better planning and schedule adherence, better utilization of people and equipment, reduction of non-productive waiting times, shorter processing times, and increased shipper confidence... ce2aa6a136

Supply chain management This can include the movement and storage of raw materials, work-in-process inventory, finished goods, and end-to-end order fulfilment from the point of origin to the point of consumption. addition, traditional supply chain has many drawbacks such as lack of transparency and trust, and some of them can be solved by blockchain technology. A more narrow definition of supply chain management is the "design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronising supply with demand and measuring performance globally". Interconnected, interrelated or interlinked networks, channels and node businesses combine in the provision of products and services required by end customers in a supply chain. The technological In commerce, supply chain management (SCM) deals with a system of procurement (purchasing raw materials/components), operations management, logistics and marketing channels, through which raw materials can be developed into finished products and delivered to their end customers ce2aa6a136

The company is known for developing the blockchain platform Chromia, as well as contributing to blockchain-based projects in land registry, gaming and fashion. ce2aa6a136 The Blockverify technology can be used for different products in order to track the diversion of goods and fraudulent transaction. ce2aa6a136 In October 2025, it became the first Asia-based fintech company to be directly listed on Nasdaq. ce2aa6a136 In 2014, ChromaWay collaborated with LHV Bank in Estonia to develop a blockchain-based system for issuance of a digital Euro, a so-called stablecoin, which they claimed to be one of the... ce2aa6a136 OwlTing was founded in 2010 by Darren Wang, a former Google employee. The company initially focused on e-commerce before shifting to blockchain applications in 2014. ce2aa6a136 == History == ce2aa6a136 SCM is the broad range of activities required to plan, control and execute a product's flow from materials to production to distribution in the most economical way possible. SCM encompasses the integrated planning and execution of... ce2aa6a136 == Definition == ce2aa6a136 Example applications include... ce2aa6a136 This is achieved in several ways, such as introducing automation, artificial intelligence (AI), or blockchain... ce2aa6a136 Although supply chain attack is a broad term without a universally agreed upon definition, in reference to cyber-security, a supply chain attack can involve physically tampering with electronics (computers, ATMs, power systems, factory data networks) in order to install undetectable malware for the purpose of bringing harm to a player further down the supply... ce2aa6a136

OwlTing Group "OwlTing: Blockchain for the Real World". Its payment service operates in 41 U. The company develops software for payments, supply chain tracking, and hospitality management. S. states and also holds a Virtual Asset Service Provider (VASP) license in the European Union and an Electronic Payment Intermediary Service Provider (Bank API) license in Japan.) is a Taiwanese financial technology company headquartered in Taipei. Property management system Supply chain management E-commerce Financial technology Basar, Shanny. The Banker OwlTing Group (operating as OBOOK Holdings Inc ce2aa6a136

== History == ce2aa6a136 Building on these concepts, ChromaWay was founded in 2014 by Henrik Hjelte, Alex Mizrahi, and Or Perelman with a focus on advancing blockchain technology beyond cryptocurrencies. One of its early initiatives was the development of a relational blockchain, designed to combine traditional database functionality with blockchain security and decentralization. ce2aa6a136 Distributed ledger data is typically spread across multiple nodes (computational devices) on a P2P network, where each replicates and saves an identical copy of the... ce2aa6a136 In general, a distributed ledger requires a peer-to-peer (P2P) computer network and consensus algorithms so that the ledger is reliably replicated across distributed computer nodes (servers, clients, etc.). The most common form of distributed ledger technology is the blockchain (commonly associated with cryptocurrency), which can either be on a public or private network. Infrastructure for data management is a common barrier to implementing DLT.. ce2aa6a136

Blockverify Blockverify is a startup that provides blockchain-based anti-counterfeit solutions mainly to customers in the supply chain industry. The company, which was founded by Paul Tanasyuk and Pavlo Tanasyuk in 2015, allows its users to track high-value goods throughout the supply chain in the hopes of delivering authentic products to its consumers. The company, which was Blockverify is a startup that provides blockchain-based anti-counterfeit solutions mainly to customers in the supply chain industry ce2aa6a136

TradeTech is the technology, software, and innovation that aims to enhance traditional financial methods in international trade and that is applied in making available trade finance and related services. ce2aa6a136 == BlockVerify technology == ce2aa6a136

ChromaWay ChromaWay has supported ChromaWay is a Swedish blockchain technology company founded in 2014, involved in decentralized applications, relational blockchain technology, web3, and smart contracts. European Blockchain Observatory and Forum’s research on blockchain applications in supply chain transparency and regulatory compliance ce2aa6a136

== History == ce2aa6a136

Trade finance technology information of a blockchain network have been noted for its potential for increasing transparency between trade partners and supply chains, as well as the Trade finance technology (abbreviated TradeTech, tradetech, or sometimes Trade Tech) refers to the use of technology, innovation, and software to support and digitally transform the trade finance industry. TradeTech puts a particular emphasis on the application of technology and software to modernise trade finance. As digital information becomes more readily accessible, convenient, and available, the trade finance industry is being gradually modernised and digitally transformed. TradeTech can be seen as a subcategory under FinTech ce2aa6a136

OpenSC (company) It uses the data to verify companies' sustainable production claims. The platform was designed to verify sustainable production claims and track food through its supply chain, and OpenSC is a company and digital platform that tracks individual products throughout their supply chain. Consumers can then view the product's history by scanning a QR code with their mobile device. OpenSC was launched in 2019 as a joint venture by World Wildlife Fund (WWF) Australia and BCG Digital Ventures. the blockchain tracking platform, OpenSC ce2aa6a136