

Blockchain Solutions for Three Major Logistics Applications

Establishing Transparent and Commonly Used Standards

Increasing Supply Chain Management Efficiency



BiTA Chief Analytics Officer Dean Croke notes that the sooner a company adopts blockchain technology for its supply chain management, the sooner it can increase management efficiency.

BiTA首席分析官迪安·克羅克指出，業界盡早採用區塊鏈科技作供應鏈管理，將加快提高管理效能的步伐。

Established in August last year, the Blockchain in Transport Alliance (BiTA) is working to devise industry standards for blockchain in logistics services. Speaking in an interview with the Hong Kong Trade Development Council (HKTDC), BiTA Chief Analytics Officer and member of the Board of Directors Dean Croke mentioned that with the complicated document management and processes involved in logistics services, the use of blockchain technology is not only a tool to significantly streamline the complex processes, but an up-and-coming trend in the industry.

Increasing management efficiency is a trend

BiTA currently has more than 450 members worldwide including multi-national logistics players, such as Salesforce, FedEx, UPS, Microsoft and Uber Freight, and its Asian members include CJ Logistics from Korea and JD.com from Shanghai, etc.

He stated, "At present, there are approximately 6,500 blockchain development projects globally. Industry players have acknowledged the importance of blockchain in logistics and supply chain management, and they have begun to develop blockchain platforms and technologies for their own companies. This has resulted in different coding and data standards in the industry." The BiTA was founded with the objective of devising internationally recognised standards for blockchain in logistics services in collaboration with the industry, and which will be open to all industry players.

Blockchain has become a popular technology worldwide. Apart from enabling information sharing, mutual authentication and transaction recording for network participants, the technology can be applied in supply chain management in logistics services, enhancing transparency and efficiency.

Croke further said that blockchain technology can be used in three major areas, including food safety, smart contracts and (logistics) shipment tracking. "Imagine there are many logistics procedures in the entire food supply chain, encompassing the place of origin, supplier, processing plant, warehouse, transportation vehicle and point of sale. All these involve a tremendous amount of information flow and messages. With the use of IoT sensors, the information of the entire supply chain can be stored in blockchain. The information in blockchain cannot be altered, forged or deleted, which significantly enhances the reliability of food safety."

Digitalisation of documents Real-time tracking of information

He added that there is a considerable amount of documents involved in different procedures in logistics, including customs declaration and clearance. Payment from the buyer is settled only when all the documents are verified and received, and the entire shipment is completed. The whole process may take from 30 to 60 days – and sometimes longer. "With blockchain technology, a smart contract could be employed to manage logistics information and procedures, which streamlines complex document workflows and payment processes. It helps industry players to save time and reduce cost, and significantly increase transaction efficiency." Simply put, it involves digitalisation of documents whereby they are verified and authenticated in the blockchain data centre at every step of the process, and online payment would be made automatically upon the workflow completion. Moreover, all information can be tracked in real time.

Croke noted that blockchain technology can be used for tracking global drivers' credentials, which includes the number of years of driving, employment history, route history and safety records. It also allows for the recording of real-time location of the goods, which facilitates tracking of shipment status and enhances the safety and verifiability of transportation.

Establishing internationally recognised standard formats

Since its establishment, BiTA members have launched various pilot projects. Croke contends that the main challenge is to devise the standards for data formats, since different corporations have their own standards. It is essential to establish common standards for every component of data format from logistics documents to real-time location of the truck, and to create connectivity between different platforms.

As Croke remarked, many large corporations have embarked

區塊鏈科技三大物流應用方案

建立開放共用標準 提升供應鏈管理效益

on collaboration in blockchain development. For instance, IBM has partnered with the shipping corporation Maersk in developing blockchain platform. Meanwhile, JD.com from the Chinese mainland has teamed up with IBM and Maersk to form the Blockchain Food Safety Alliance, which enables real-time monitoring throughout the entire process of food shipment from the supplier to the consumer.

Croke believes that with the increasing popularity of online shopping, logistics transportation will continue to expand in scale and the industry has considerable potential for growth. "The sooner a company adopts blockchain technology for its supply chain management, the sooner it can increase management efficiency." As he pointed out, the Asian logistics industry is

highly receptive to blockchain. In view of this, BiTA is actively promoting the technology in Asia, including its participation in the Asian Logistics and Maritime Conference (ALMC) held on 20 and 21 November this year.

Croke hopes that by participating in the conference, BiTA can promote the latest applications of blockchain technology to the Asian logistics industry and attract more industry players to join the effort in developing common standards for data formats. "Even small and medium-sized enterprises should investigate what the application of blockchain technology can do to enhance their business management efficiency in the long run."

區塊鏈(blockchain)已成為全球熱門科技，它不但可以讓網路參與者共享資訊、共同認證、儲存交易細節等，更可以應用在物流業供應鏈管理上，提高透明度及促進效能。全球區塊鏈貨運聯盟BiTA(Blockchain in Transport Alliance)於去年8月成立，可望為業界訂出區塊鏈物流服務標準。

BiTA 首席分析官迪安·克羅克先生 (Dean Croke) 接受貿發局專訪時指出，物流服務涉及繁複文件處理及程序，採用區塊鏈技術不僅可以節省大量繁複工序，更是大勢所趨。

提高管理效益 大勢所趨

目前，BiTA全球有超過450個成員，包括 Salesforce、FedEx、UPS、Microsoft及Uber Freight等跨國物流業翹楚，而亞洲成員則包括韓國的CJ Logistics及上海的京東物流等。

他表示：「現時，全球約有6,500個區塊鏈開發項目，業界都認同區塊鏈對物流供應鏈管理的重要性，並各自開發適用於自己企業的區塊鏈平台及技術，亦因此衍生出不同的編碼 (coding)及數據 (data) 標準。」BiTA成立的目的，正是與業界共同訂出全球區塊鏈物流服務標準，並開放予業界使用。

Croke提到，區塊鏈技術可以應用在三大層面上，分別是食品安全、智慧合約(smart contract)及物流運輸追蹤。「試想想，整個食品供應過程牽涉原產地、供應商、加工場、倉庫、運輸車輛及銷售點等多個物流過程，當中的資訊流量及信息十分龐大。現在只需要利用物聯網(IoT)感測器，即可將整個供應鏈的資訊即時儲存在區塊鏈上。相關資訊在區塊鏈內是不能修改、偽造或刪除，使食品安全的可靠程度大大提高。」

文件數碼化 資訊即時追蹤

他補充指，物流業的不同工序都涉及大量文件處理，包括報關、清關等文件，而且要待所有文件經核實及收受，完成整個運輸過程，買家才會付款，整個流程可以長達30至60天，甚至更長。「把區塊鏈技術應用於物流文件上，以智慧合約管理物流資訊及手續，簡化繁瑣的文件程序及付款流程，幫助業界節省時間與成本，提高交易效率。」簡單而言，就是物流文件數碼化，各程序皆於區塊鏈數據中心核實確認，完成流程則立即網上自動付款，簡便快捷，所有資訊可作即時追蹤。

Croke續提到，區塊鏈科技亦可應用於全球運輸司機認證上，包括其駕駛年資、履歷，以至過往駕駛路線及駕駛的安全記錄等，另又可記錄商品運輸的實時位置，以便追蹤物流進度，提高貨運的安全性及稽查性。

建立全球共用標準格式

BiTA成立以來，成員已展開不同的先導計劃(pilot project)。Croke坦言，箇中難度是訂立數據的標準格式，因為企業各自訂有數據格式的標準，每個數據的格式組合(component)，由物流的文件及貨車實時位置等，都需要有共用的標準，而且需要在不同的平台間建立聯繫(connectivity)。

Croke 表示，不少大型企業已展開相關合作，包括IBM 夥拍航運集團馬士基 (Maersk) 開發區塊鏈平台，而內地的京東物流亦與IBM、沃爾瑪等企業組成的區塊鏈食品安全溯源聯盟，攜手開發將食品從供應商到消費者的物流運輸過程，都可以實時追蹤的區塊鏈技術。

他認為，在網購愈趨普及情況下，物流運輸的規模將更見龐大，且行業具高增長潛力：「愈早採用區塊鏈科技作供應鏈管理，將愈早提高管理效能。」他指出，亞洲業界對區塊鏈科技的投入度非常正面，而BiTA亦積極在亞洲區內進行推廣，包括參與於本年度11月20日至21日舉行的「亞洲物流及航運會議」(ALMC)。

Croke期望藉著參與會議，向亞洲業界推廣BiTA及最新區塊鏈科技的應用，吸引更多業界共同開發共用數據格式標準，「即使小型業界亦宜多了解區塊鏈科技的應用，長遠可提高業務管理效益。」

Find Dean at :

**Tech Dialogue -
Unraveling the Mysteries
of Blockchain & Hyperloop
Technologies**

Date : 20 Nov (Tue)
Time : 14:30 – 15:45
Venue : Room B