

Summary of Data Validation for Diamonds on the Everledger Platform (1.3)

Paper invoices and certifications that demonstrate provenance or human rights due diligence can be easily lost, poorly copied, or corrupted. This is especially true within the diamond trade, where the journey from mine to market involves a myriad of exchanges and transformations well before a jewellery purchase is ever made. With increasing regulatory and investor requirements around topics such as modern slavery and climate change, Everledger seeks to make this data as readily and accurately available as possible.

Typically, gathering the data to make certain claims means tracking transactions made from one centralized database to another. The speed and volume of transactions in these manual environments force an assumption of honesty, even though the risk for fraud and human error is significant. With the Everledger platform, participants can leverage a symphony of technologies including blockchain, AI, IoT and nanotechnology to make readily substantiated sales claims. Everledger supports clients by creating a digital twin of every diamond or gemstone as a secure and permanent digital record of an asset's origin, characteristics and ownership. This digital twin is coupled with secured copies of all the records, so each participant can view the provenance of the data with shared accuracy.

Technology in Use

These new capabilities are changing the nature of due diligence work, for both speed and accuracy. With Everledger's parallel functions, in the time it took to manually review 200 documents over 10,500 documents can be accurately triangulated. In one recent upload of diamond data that included over 41,000 certifications, the Everledger suite of services quickly identified a narrow group of 25 certificates that had critical commercial and claims errors. While seemingly insignificant, these are the types of claims that see companies sued and hard-earned reputations tarnished.

Data Governance

The Everledger platform is designed to be a trusted source of accurate data of the producers of assets and the path of transformations that assets followed. This includes the original source of the materials used in the products and the sustainability and ethical practices followed in the supply chain. In using the best systems, technology, and governing principles available, Everledger demonstrates each type of claims such as ethical practices and origin, by implementing specific data criteria reviews that align with industry-accepted norms and/or chain of custody or regulated claim requirements.

Providing Data

When first providing data to the platform, Everledger's onboarding team will assist to standardise that data, analyse if key claims such as origin, sustainability, and chain of custody can be met, and request additional information to adequately substantiate claims as needed. Creating greater consistency in data structures enables faster, seamless, and more trustworthy exchanges between parties. For data relating to parcels of rough to polished gems in the diamond trade, there is a multitude of supply chain information that is

uniformly configured: the mine invoice, the KPC, bills of entry, airway bills, supplier invoices, and grading certificates to name a few.

Initial data ingestion is often a manual process that leads toward automated updates by using a suite of application programming interfaces, or APIs, which allows two applications to talk to each other. There are namely three ways in which data providers contribute accurate information relating to the assets and entities that are discoverable within the Everledger platform: by a provider calling on Everledger APIs, by Everledger calling on provider APIs, or by the provider supplying information manually with a spreadsheet (CSV) or files shared from a cloud-hosting service (SFTP) directly within Everledger's platform console.

Data Integrity

Before data can be loaded to the blockchain, it must first satisfy key integrity, verification, and governance requirements. To expedite this process, Everledger employs the use of artificial intelligence (AI) technologies such as optical character recognition (OCR) that rapidly processes checks against claims made and the documentation provided.

Within the diamond trade, these checks may include KPC details such as issue date, stamps, country of origin, and weights. Receiving party details such as company names, addresses, invoice details, The System of Warranties, and compliance with corporate practices and standards (e.g., the Responsible Jewelry Council's Code of Practice) – as each correlates to the KPC – may also be captured. Manufacturing process information including lot, packet or parcel, and planning details, as well as final quality characteristics, are each accounted for holistically. Once all of these checks have been successfully made, the information is loaded into a database where it is converted into a standard format before being automatically written to the blockchain.