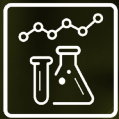


# Digital Sample Manager™



Utilizing distributed ledger technology to ensure sample tracking and real-time status updates

DSM solution provides sample tracking that ensures a streamlined and transparent process across participants, real-time status updates that can be tracked efficiently, and eliminates lost sample issues. Additionally, receipt acknowledgment, reporting and reconciliation, along with standardization of the process - minimizes the need for changes to existing workflows.



*“Another important use case involves providing patients with proper clinical kit management practices, for patient safety and to provide accurate results from patient studies. Managing all of these studies and complex data requires a secure, decentralized ledger.”<sup>1</sup>*

Gunjan Bhardwaj

*“Blockchain technology allows clinical trials to be monitored from a wider variety of locations, use a wider base of staff and have higher patient privacy and information security at the same time, thereby increasing completion rates.”<sup>2</sup>*

Artem Andrianov, PhD, Boris Kaganov, PhD

56%

A recent study from IBM revealed that 16% of healthcare executives plan to put a commercial blockchain solution in place this year, while 56% expected to do so by 2020.<sup>3</sup>

30%

Patient enrollment by some estimates is responsible for 30% of the time it takes to conduct clinical trials, with some sites never enrolling a single patient.<sup>3</sup>

## The Challenge:

The successful execution of clinical trials involves coordinating a myriad of resources and processes. Among these challenges is the management of the global clinical supply chain, including complete traceability across the entire chain of custody. Maintaining visibility into the chain of custody can be challenging for many reasons, as can providing the level of data integrity and traceability required by regulatory authorities. At present, the chain of custody often spans multiple data systems and is augmented by extensive processes at the clinical sites, resulting in excessive manual data entry work, coordination between external and internal teams, frequent opportunities for error and difficult end-of-study reconciliation.

Sample management can involve missing or contaminated samples, incomplete data, delays in reporting results and substandard logistics. This can lead to higher costs, lack of visibility and other preventable problems.

## Our Solution:

Digital Sample Manager (DSM) leverages distributed ledger technology to bring improved visibility, transparency and tracking to the chain of custody in clinical trials. The solution provides end-to-end sample tracking and real-time status updates to all chain of custody entities, eliminating lost sample issues.

DSM is ideally suited to provide complete transparency for clinical trial program administration for life science and research organizations, to automate tracking and permissioned disclosures among stakeholders including: trial sponsors, clinical trial sites, labs, clinical research organizations, auditors, shippers, local and third-party labs, as well as patients.

## Value Proposition:

- Reduced errors and need for manual reconciliation (single source of truth).
- Real-time updates leading to complete transparency and end-to-end tracking of chain of custody.
  - All parties know where a sample is at any given point of time.
  - All parties see the longitudinal view of the sample set based on their permissioned access.
- Complex and time-consuming process of integration between systems is eliminated.
- Removal of data silos and data redundancy.
- Complete end-to-end data audit provides full visibility for audit and compliance for internal audits as well as FDA and other regulatory bodies.
- Improved security: Data in transit and at rest is encrypted; identity management is handled cryptographically.
- Longitudinal immutability of records.
- Reliable, time-stamped records.
- Automation of traditionally manual processes.
- Elimination of paper waste.

Contact us at: [sales@hsblox.com](mailto:sales@hsblox.com)

1 <https://pharmaphorum.com/views-and-analysis/five-use-cases-for-blockchain-in-pharma/>

2 <http://www.appliedclinicaltrialsonline.com/blockchain-clinical-trials-ultimate-data-notary?pageID=2>

3 <https://www.forbes.com/sites/forbestechcouncil/2018/02/02/blockchain-technologies-poised-to-disrupt-stagnant-trial-timelines/#718eb0477390>