



SAP Innovation Awards 2019 Entry Pitch Deck

Utilizing Blockchain Technology Through Integration
With SAP Leonardo and SAP ERP System

EY

THE BEST RUN



Intro Video



[Vimeo Video](https://vimeo.com/user70877906/review/316137089/c9ccb969b1) (Password: s4p): <https://vimeo.com/user70877906/review/316137089/c9ccb969b1>

This year we are introducing the ability to provide us with a short video (no more than 3 minutes), that describes the challenges your project addresses and any notable benefits.

To provide a video:

- Y Create your video
- Y Post to [YouTube](#), [Vimeo](#) or other publicly accessible site
- Y Paste video link in above

IMPORTANT: If you include a video in your Pitch Deck, you must comply with data privacy, and in particular [GDPR](#). This requires that you have written consent from anyone whose personal data is included in the video.

EY Ops Chain Will Commercialize the Use of Blockchain Technology Across Multinational Enterprises



“It’s time for blockchain to go beyond finance applications alone and deep into industry. Our EY Ops Chain vision is to drive the blockchain revolution by integrating finance with operations to industrialize blockchain for businesses.”

Paul Brody

**EY Global Innovation
Blockchain Leader**

Many of today’s supply chains suffer from disparate and inefficient fulfillment and settlement processes in terms of visibility, performance, risk and cost. Despite multinational enterprises (MNEs) investing heavily in digital infrastructure, most companies only have limited visibility and insight into where all their products are at any given moment. Additionally, many MNEs struggle to manage the vast information across regions, suppliers, partners and customers. This makes it difficult for the companies to analyze data and generate insights, as well as to efficiently reconcile, settle and automate transactions.

EY Ops Chain is a blockchain-based solution that increases trust and visibility across a supply chain network through the tokenization of assets and the automation of business transactions between parties. The distributed ledger is shared across the entire ecosystem, ensuring a single, immutable record, enabled by SAP Leonardo. Implementing EY Ops Chain with SAP Leonardo can enhance end-to-end tracking of products, inventory traceability, settlement and automatic execution of multi-party agreements between disparate organizations. By design, the shared ledger is updated and validated instantaneously with each network participant, resulting in greater collaboration, streamlined inventory management and improved asset management.

EY Ops Chain Intercompany is an example of an application that is built on top of EY Ops Chain and provides an efficient way to manage intercompany transactions. Through integration directly with SAP and other data sources, EY Ops Chain Intercompany facilitates transparency across the organization. Through integration with SAP ERP, MNEs may reduce their intercompany reconciliation and settlement issues and benefit from having a shared “single source of truth.”

EY Ops Chain enabled by SAP Leonardo increases shipment traceability with same-time shipment data and automated contract conflict resolution.

EY Ops Chain Intercompany, integrated with SAP, can automate many manual intercompany processes, facilitate global settlements and provide audit trails, including for tax and transfer pricing purposes.

Leveraging the **EY Ops Chain** platform may enable companies to speed up their blockchain development and use by building on the existing platform components, such as tokenization and swarm services.



Business Challenge & Objectives

Historically, companies sold products and services through linear value chains; but, with the supply chain of the future, digital ecosystems consisting of market networks will enable hybrid forms of cooperation and competition. At the same time, technology, demographics and government policies are shaping industries as never before. To improve performance and innovation in this Transformative Age, companies must radically restructure their supply chains and operations.

Over time, supply chains have become increasingly more extended, more complex and more global, leading to greater exposure to risks. Companies depend on suppliers for information, and it is not an easy task to produce, manage, acquire and interpret information generated within and outside of the company in order to make the right management decisions. Companies lack a shared platform to completely and accurately track and report on supply chain and intercompany transactions that can be leveraged for assessing transfer pricing and to determine tax implications across various legal entities.

Even as supply chains have transformed, companies have not updated the underlying technology for managing them adequately. With blockchain technology, companies can rebuild their approach to supply chain management at the ecosystem level and go from islands of insight to an integrated global view. Through blockchains, companies gain a same-time digital ledger of transactions and movements for all participants in their supply chain network. EY Ops Chain can provide a way to gain trust in supply chains, as the network will work toward a “single source of truth” where suppliers and buyers use a consistent data format, increasing traceability and authentication of products.

Blockchain is a simple and elegant way to take transactional data and reliably share data between counterparties. Using EY Ops Chain, companies can simplify supply chain management and seamlessly integrate digital contracts, shared inventory and logistics information, pricing, invoicing and payments. This can improve forecast accuracy and fulfillment performance while reducing working capital requirements.

Ops Chain Intercompany

By laying the foundation for digital supply chains and integration to ERP systems like SAP, EY Ops Chain Intercompany will address many of the challenges companies face in their intercompany processes. The accounting logic that is built on top of EY Ops Chain targets reconciliation, automation, allocation and settlement issues through integration with SAP ERP system and the ability to pull data from other source systems. The functionality enables all ecosystem members to benefit from the increased transparency and dispute handling.



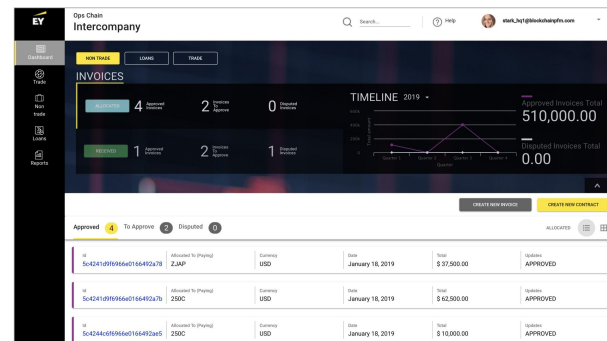
Project / Use Case Details

EY Ops Chain

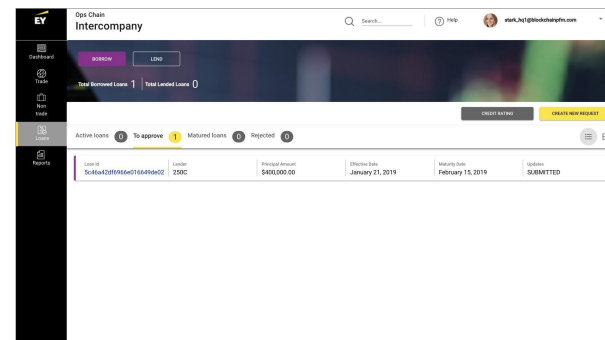
EY Ops Chain is the base platform, which is a set of applications and services aimed at helping organizations commercialize the use of blockchain technology across the enterprise. Using EY Ops Chain enabled by SAP Leonardo, MNEs can simplify supply chain management and seamlessly integrate digital contracts, shared inventory and logistics information, pricing, invoicing and payments. This can improve forecast accuracy and fulfilment performance while reducing working capital requirements.

Ops Chain Intercompany

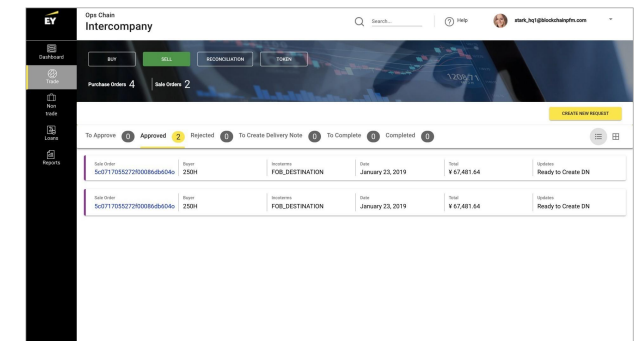
EY Ops Chain Intercompany, which is a layer of accounting logic added to the EY Ops Chain platform, may help solve complex intercompany transactions to allow for linkages among transactions, as well as entries and supporting information. The functionality runs in conjunction with current ERP solutions through integration with SAP, thereby not disrupting day-to-day operations. The records on the blockchain enable tracing of transactions and supporting documents end to end, transaction by transaction, and reconcile accounting entries even years since they have occurred. The immutable nature of the records and granularity stored allow for enhanced analytics on the end-to-end financial flow recorded on the blockchain and provide real-time insights to management, enhancing overall financial controls. Using smart contracts built into the blockchain can automate manual processes and enhance governance and compliance on intercompany transactions. EY Ops Chain Intercompany with integration directly to the ERP system(s) will align and standardize policies governing crucial areas, such as data flow and stewardship. This will systemize the way transactions are processed, and issues resolved and reduce the quantum of manual reconciliations. By creating just one version of the ledger, blockchain technology would allow transparency and the opportunity for simultaneous settlement.



Non-Trade/ Allocations Module



Loan Module



Trade Module



Benefits and Outcomes

Business / Social

- Increased transparency and reliable data
- Improved decision-making with self-executing contracts
- Accelerated issue resolution by usage of smart contracts
- Risk mitigation with automated warning triggers
- Fully integrated supply chain to facilitate end-to-end and straight-through processing, reducing costs and improving efficiencies
- Provides one blockchain platform for intercompany trade transactions, non-trade allocations and loans, which is the “single source of truth.”
- Blockchains synchronize data and transactions across the network, and each participant verifies the work and calculations of others

IT

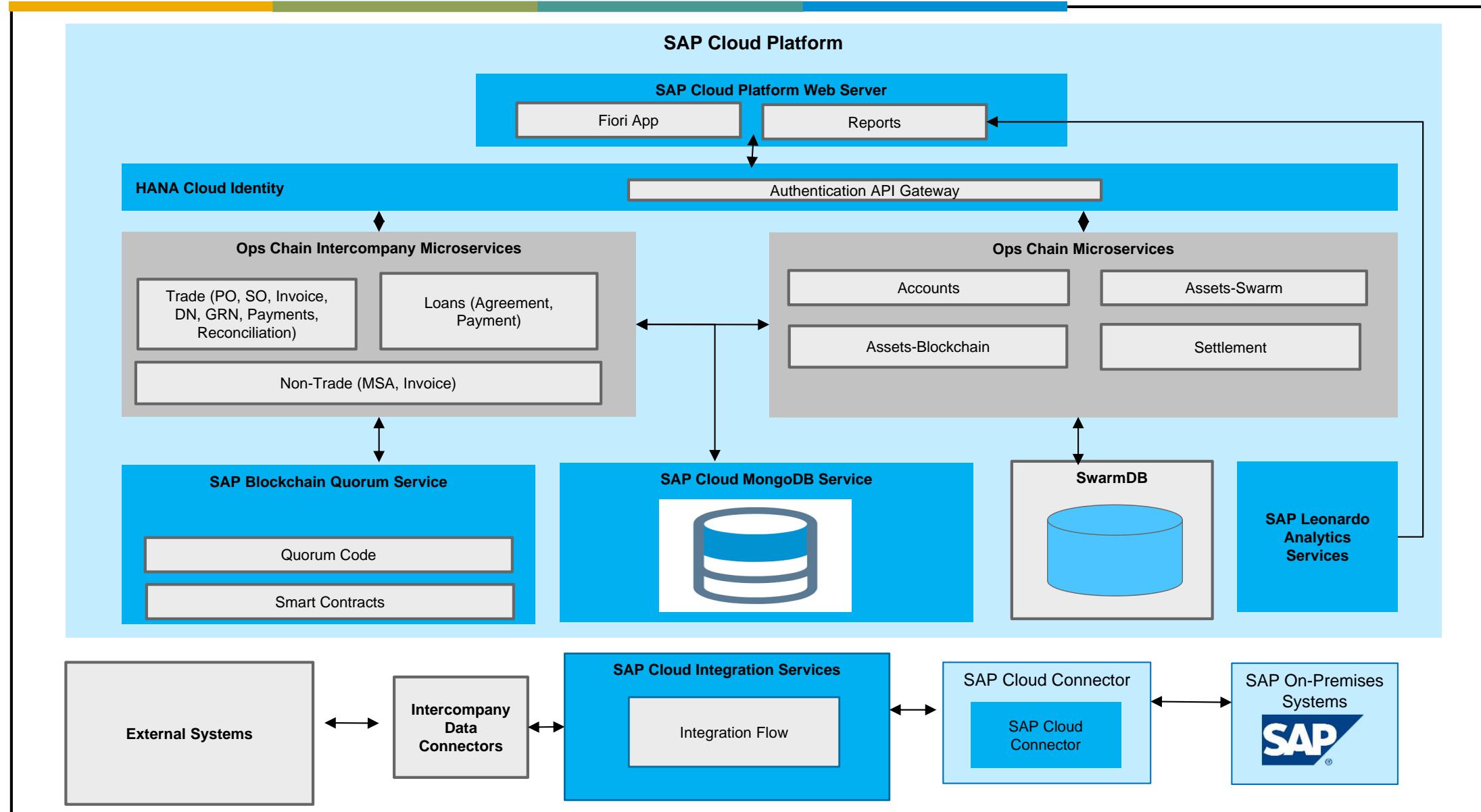
- Improved IT efficiency, empowering staff to be more productive, lessening redundancy in work
- More efficient use of hardware resources with deployment in the cloud
- Accelerated end-to-end cycle times and greater visibility
- By leveraging distributed ledger and tokenization technology, MNEs can record and match intercompany transactions with same-time integration to SAP and other ERP systems
- An interactive and agile approach to solution design and implementation allows the solution to provide value in weeks not years, building trust quickly

Human Empowerment

- Improved same-time access to live data within the supply chain
- Increased collaboration between multiple parties involved running different transactional systems
- Increased trust factor within the business, which provides increased control and improved performance
- Transforms the costly and labor-intensive intercompany business processes into a standardized and automated blockchain-based solution
- Provides finance teams with a robust, automated platform throughout the intercompany transaction life cycle



Architecture





Deployment

Date of Deployment or POC: December 15, 2018

Number of live users: 15

SAP Technologies Used:

SAP Leonardo SAP Quorum Service IoT Service 4.0 (Cloud Foundry)	POC
SAP Fiori	POC
SAP Cloud Integration	POC
SAP Cloud MongoDB	POC
SAP Cloud Connector	POC

Server Processor: Unknown

Linux Distribution: Unknown



Emerging Technologies and Use Cases

The following Emerging Technologies and use-cases are part of the project and describe the contribution

	Technology or Use Case	Yes / No	Contribution to Project
1.	Machine Learning / Artificial Intelligence	No	
2.	IoT	Yes	Tracking of assets and execution of smart contracts based on temperature inputs received from IoT
3.	Blockchain	Yes	Maintain digital ledger of live updates and enable businesses to create distributed ledgers for supply chain and intercompany transactions
4.	API Economy / Integrate the Intelligent Enterprise	Yes	Enable Ops Chain and EY Intercompany API Services to generate revenue
5.	Cloud Native / Event-Based Architectures	Yes	Cloud-based architecture
6.	Extending the Digital Core With SAP CP / ABAP in SAP CP	Yes	Intra and Intercompany scenario
7.	SAP Leonardo Application (Extending SAP Application, Using Industry Innovation Kits or Result of Design Thinking Workshop)	Yes	Adding Fiori dashboards to SAP platform