



Contour Case Study

The Network of Networks Digitalizing Trade Finance

Contour is unlocking untapped potential in traditional trade finance by harnessing the power of enterprise blockchain—boosting speed, visibility and trust across the international trade finance ecosystem



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Blockchain is a key technology we are exploring and using with our own customers and, now, using for ourselves with the completion of this transfer on Corda. Simply put, we took a highly manual, complex transaction and made it more secure and efficient

Rani Misra
Cargill, Regional Treasurer, APAC

Contour at a Glance

Platform: R3's Corda Enterprise

Application builder: CryptoBLK

Key Partners: BAIN

“ Contour has consistently proven to reduce the end-to-end processing time for LCs by 90% or more

About Contour

Contour started life as a co-operative with eight banks and R3 in 2017 with the vision of delivering a global blockchain-based network and application to digitize the \$18 trillion trade finance market. Launched commercially in January 2020, Contour counts ING, Citi, CTBC, Standard Chartered, RBS, SEB, BNP Paribas, HSBC, and Bangkok Bank among its members and has been used by over 50 banks and corporates in trials involving the simulation of multiple digital Letter of Credit (LC) transactions across 27 countries on six continents.

The industry problem

Traditional trade finance, and in particular LCs, have been the focus of digitization initiatives for many years. Despite strong standards, the inefficiencies of paper-based processes along the multiple phases of trade transactions impact cost, complexity and turnaround times. These issues result in reduced margins for traditional bank LC business and tough competition for client business from other working capital solutions.

The solution

The original banks chose R3's **Corda Enterprise** to address the privacy, security and throughput demands of trade finance networks. The Contour application has been built by software development house CryptoBLK on the Corda platform.

The outcome

Following 14 public live pilots in 14 countries, and more behind the scenes since May 2018, Contour is gearing up for full scale production with banks and corporates queuing up to commence business on the network of networks. This is because Contour has consistently proven to reduce the end-to-end processing time for LCs by 90% or more, simplifying the process for all participants and opening up the promise of new business opportunities for banks, corporates and trade ecosystem players.

The pain point

Slow, unwieldy paper processes

Banks have been issuing letters of credit for centuries, helping to provide greater certainty to customers involved in international trade. Corporates that can afford LCs, and overcome the initial barriers to entry, love the comfort and lower risk they provide.

However, despite the clear benefits that letters of credit offer, documentary trade using letters of credit still accounts for only a relatively small and ever-decreasing share of world trade finance volumes. The reason? Inefficient, opaque, paper-based processes slow down the issuance and execution of letters of credit. What's more, these paper processes are made even more fragmented by the fact that the trade finance paper chain includes not only the documents that accompany the financing, but also those related to the movement of goods and services.

The resulting costly errors, compliance costs, and slow turnarounds for documentary trade transactions have meant the shift to open account has continued, meaning more risk for corporates and a smaller market for banks. Venkatraman, Lead for Documentary Trade and Innovation—Global Trade and Receivable Finance at HSBC—a co-founder of the Contour consortium—says the reasons for these adverse trends are clear. “The way banks currently deliver LC services is archaic and paper-intensive,” he explains. “This makes them costly for banks to provide and hard to sell to customers. It also makes it more difficult and expensive for corporates to use letters of credit to expand into new markets.”

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What is an LC and why blockchain?

In simple terms, an LC is a guarantee from a bank that a seller will receive a payment due from a buyer. The bank guarantees that the seller will receive a specified amount of money within a specified time. In return for guaranteeing the payment, the bank will require that strict terms are met—backed by documents like shipping confirmation, as proof. With multiple entities needing to verify that ‘what I see, is what you see,’ blockchain provides an opportunity to bring trading partners, logistics firms and financiers into sync.

Pintuwan Kleijssen, VP, Trade Finance Product Management of Bangkok Bank, another Contour co-founder, adds that the problems are compounded by the number of participants and a lack of shared standards. “There are a lot of parties along the value chain, and standards that the paper must follow differ between countries,” she says. “Also, everyone uses different systems—not just the buyer and seller and their banks, but also carriers, insurers, government agencies and more. It’s very complex, slow and manual. And it’s hard to always be sure that everyone is working from the same agreements, hard to automate parts of the chain, and hard to trust that everyone is seeing the same thing.”

Delivering the solution

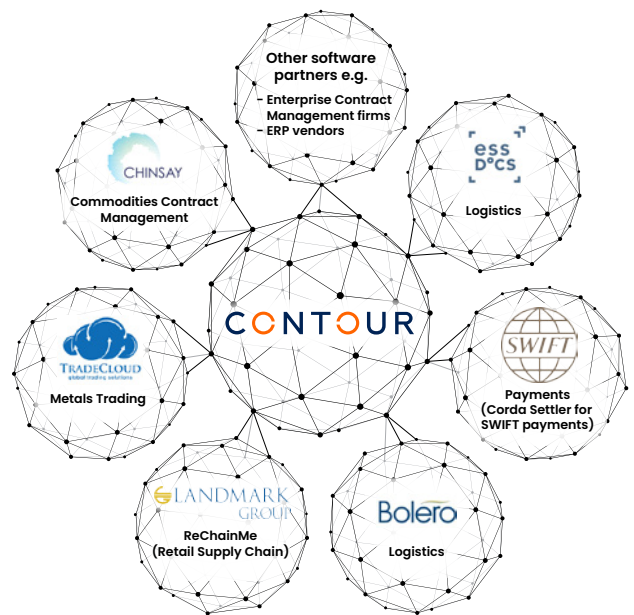
Harnessing the power of collaboration

Together, all these pain-points make trade finance an ideal candidate for transformation using an enterprise blockchain platform. So, in 2017, R3 and its partner banks in the consortium set out to develop a solution that would link all the participants and transactions in the LC process in a secure and seamless way, and unleash the full network effect across the documentary trade ecosystem. They've now developed the solution to do just that.

It was clear from the start that Corda Enterprise was the optimal technology to underpin the solution. Bangkok Bank's Pintuwan Kleijssen explains: "When we talk about R3's Corda Enterprise we're not talking about generic blockchain, but really a platform that has been designed for the specific needs of our corporate customers and our own privacy and security needs. The key benefits of blockchain are transparency, so everybody knows who's doing what, when and how; and with immutability, so nobody can deny what they've done. Corda goes a step further by providing robust privacy around transactions too, which makes it perfect for the financial industry. Access to information is limited just to the parties immediately involved. Corda also emphasizes smart contracts—the business rules that we can build on."

HSBC's Venkatraman agrees that Corda Enterprise was the natural choice for Contour. "When it comes to trade finance, Corda is built for purpose," he says. "It offers all the benefits of other blockchain solutions—like speed, transparency and with immutability—but also overcomes two key issues that affect them. First, privacy: Corda uses permissioning to control how data is shared on the network. And second, scalability: the fact that data is only shared with certain parties means the network is efficient and highly scalable. Plus, unique identity is built in so everyone is certain who they're dealing with."

Following the consortium's establishment in 2017, the Contour development team hit the ground running. They began by going through the entire letter of credit process step-by-step, defining the best possible experience at every stage from each



Contour and R3: bringing together the digital landscape

Contour uses open APIs to integrate a range of world-class partners to harmonize multiple digital networks and provide a seamless and convenient experience to users.

Partnerships with essDocs and Bolero integrate electronic bills of lading, enabling banks and corporates to securely share and track this information on Contour.

A partnership with TradeCloud enables commodities producers, consumers and traders to automate LC processing by providing orders to Contour securely and in real-time, directly from TradeCloud. This opens up significant market potential for banks and corporates alike.

Chinsay's Intelligent Contract Platform (ICP) provides automation and digitization of contract issuance.

Landmark Group's own DLT platform, ReChainME, was integrated with Corda to track the logistics side of an HSBC LC on Contour.

participant's point of view, and then developing the capabilities to deliver it. The pace of progress was accelerated through close collaboration, with input from R3 and the member banks augmented by world-leading expertise from CryptoBLK, a Hong Kong-based blockchain system developer. Within six months, the minimum viable product (MVP) was ready—enabling the first live pilot to take place in May 2018, conducted by HSBC, ING and two Cargill entities in Argentina and Malaysia.

Crucially, Contour digitizes and transforms how LCs are delivered while retaining their inherent purpose and strengths, thus reducing many of the barriers for smaller corporates and exporters to using it. Bangkok Bank's Pintuwan Kleijssen adds that Contour brings the benefit of giving more control and transparency to buyers and sellers, removing the complexity of the product for smaller businesses. "With Contour, the importer and exporter agree everything up front on the platform and initiate the letter of credit before it goes to the banks," she says. "So the banks don't have to interpret their customers' needs, and there's less risk of having to amend it later."

As the live pilots have continued, interest and excitement around Contour has grown rapidly—with the members highlighting Contour's collaborative nature as key to its rapid advance. "The great thing about collaboration is that it multiplies your development budget and accelerates your progress," says HSBC's Venkatraman. "It's been a tremendously exciting journey not just for HSBC, but all the banks." Bangkok Bank's Pintuwan Kleijssen adds that participating in Contour has enabled her bank to drive the development of trade finance on a more global scale. "Usually the global banks set the agenda," she says. "Being in Contour has given us a unique opportunity to get in at the beginning, and emphasize the needs of banks and corporates in our part of the world."

Portrait of a Contour transaction: Bangkok Bank in Thailand and Indonesia

In January 2019, Bangkok Bank conducted an LC transaction over the Contour network for a shipment of polyethylene from Thailand to Indonesia. The exporter was GC Marketing Solutions Company Limited (GCM), a subsidiary of PTT Global Chemical Public Company Limited (GC), a chemical flagship of PTT Group. GCM worked with Bangkok Bank to test letter of credit transactions using Contour between GCM in Thailand and its business partner, PT. Bukitmega Masabadi in Indonesia. Creating and processing a letter of credit between the two countries usually takes five to 10 days. In the pilot, this was cut to three hours.

Mr. Narongchai Pisutpunya, former President of GCM, said: "This breakthrough in the use of enterprise blockchain will revolutionize international trade finance transactions. Real-time information sharing on the enterprise blockchain trade network enables GCM to shorten export the delivery time for our customers and reduces fraud risk, which is beneficial for our business."

Mr. Thitipol Artsanchorn, Managing Director of GCM, added: "When making a transaction on Contour, we could verify information before issuing the letter of credit, and any changes could be seen from both ends simultaneously. By sharing the information between related parties in real-time, export goods were delivered faster and the payment was received more quickly. There was better security. And reconciliation was no longer required, as all related parties maintained the same set of data and were updated simultaneously about status changes."

The results achieved

A selection of the live Contour transactions conducted to date are summarized in Figure 1. All of them have demonstrated the pervasive benefits that Contour delivers across the documentary trade ecosystem, by making the process:

- **Transparent**—With data synchronized and updated simultaneously across all parties, reconciliation is no longer needed.
- **Fast**—The letter of credit process is fully digitized from end to end, cutting paperwork by more than half and reducing processing time from 10 days to 24 hours or less.
- **Secure**—Only authorized parties can access the data, which is protected by the Corda platform.
- **Simple**—The user experience is made simpler and more intuitive through templates and workflows provided by the application.

The revolutionary impacts of these benefits extend along the value chain. For example, by removing the need for sellers to spend a week or more collecting and submitting paper documents evidencing shipment, Contour enables the documentation to arrive simultaneously with or even before the goods, meaning sellers can get paid in days rather than two to three weeks. The resulting working capital benefits mean sellers can offer discounts to buyers in return for using the Contour platform—creating a win-win.

As HSBC's Venkatraman comments, this reflects Contour's goal of delivering a holistic solution. "In the past, most digital letter of credit solutions have focused on just one of the participants," he explains. "But to build scale and usage, you have to create benefits for all parties. That's what Contour delivers." He highlights Contour's real-time tracking of every step as one of the capabilities that does this. Bangkok Bank's Pintuwan Kleijssen adds that the success of Contour transactions are generating rising interest among both commercial and central banks—and that companies involved in international trade are eager to find out more. "Corporates are queuing up to ask about the benefits," she says. "Once you explain how it can benefit them, they get very excited."



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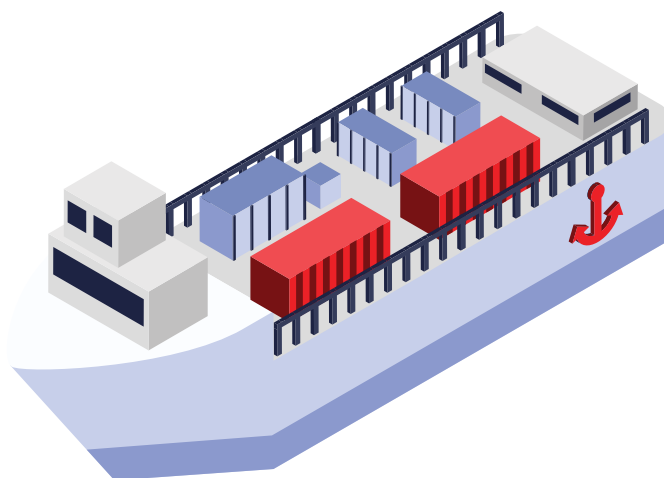
Figure 1: To date multiple live pilots have been completed delivering a range of benefits to global corporates.

	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Apr 2019	Jun 2019
Issuing Bank	HSBC	ING	BNP Paribas	Bangkok Bank	HSBC	HSBC UK
Advising Bank	ING	HSBC	HSBC	Bangkok Bank	HSBC	HSBC UK
Importer	Cargill	Tricon	Cargill	PT.Bukitmega Masabadi	SDIC	Landmark Group (UAE)
Exporter	Cargill	Reliance	Rio Tinto	GC Marketing	Fox & Lillie Woolmerchants	Bee Dee Industries (China)
Shipment Details	Soybeans (Argentina to Malaysia)	Polypropylene (India to US) eBL integration	Iron ore (Australia to China) eBL integration	Polyethylene (Thailand to Indonesia)	Wool (Australia to China)	Consumer goods (China to UAE)
Time Reduction	From 5-10 days to 24 hours	From 7-10 days to less than 24 hours	From 1-2 days to less than 2 hours	From 10 days to 24 hours	Undisclosed	40% reduction in LC processing time
Other Benefits	<p>"The need for paper reconciliation is removed because all parties are linked on the platform and updates are instantaneous."</p> <p>Head of Growth & Innovation, HSBC</p>	<p>"... enables greater transparency and enhanced security in addition to making it simpler and faster."</p> <p>Head of Global Trade & RF, HSBC APAC</p>	<p>"Transactions like this one will help achieve great efficiency and transparency in trade finance for the benefit of all players ..."</p> <p>Head of Global Trade Solutions, BNP Paribas</p>	<p>"Through this collaboration with leading global trade finance banks, Bangkok Bank customers will be able to make speedy transactions with trade partners around the world."</p> <p>Executive Director, Bangkok Bank</p>	<p>"... huge value for Chinese importers and exporters ... enhanced efficiency and security as well as working capital optimization."</p> <p>President & CEO, HSBC China</p>	<p>"Being able to connect two complementary blockchain platforms is a significant milestone in the development of this technology."</p> <p>Head of Trade at HSBC Middle East, North Africa and Turkey</p>
	Jul 2019	Aug 2019	Aug 2019	Sep 2019	Sep 2019	Oct 2019
Issuing Bank	HSBC UK	SCB	HSBC	CTBC (Taiwan)	HSBC	HSBC Malaysia
Advising Bank	HSBC UK	SCB	BNP Paribas	ING Slaski (Poland)	HSBC	HSBC Singapore
Importer	Duy Tan	IRPC Public Company Limited	Cargill	GRANULAT-CHMIELARZ Spolka Jawna	Shenzhen MTC	Singaporean chemicals company
Exporter	INEOS Styrolution	PTT International Trading Pte Ltd	Rio Tinto	Chi Mei Corporation	MTC Electronic	Simply Packaging Sdn Bhd
Shipment Details	Plastics (Korea to Vietnam)	Oil (Thailand to Singapore)	Iron ore (Australia to China)	Taiwan to Poland	Raw materials (Hong Kong to Shenzhen)	Resin (Singapore to Malaysia)
Time Reduction	From 5-10 days to less than 24 hours	Undisclosed	From weeks to hours	Undisclosed	From 5-10 days to 5 hours	From 5-10 days to less than 24 hours
Other Benefits		<p>"We are extremely optimistic and excited about the potential opportunities that Contour brings to the industry with its demonstrated benefits in improved speed and reduced risks of settlement, as well as its flexibility in connecting banks, businesses and other third-party providers in its network."</p> <p>Global Head of Documentary Trade Product Management at Standard Chartered</p>	<p>"The integration of these technologies into Contour has, for the first time, allowed for a complete, uninterrupted transaction flow that connects data from Chinsay's ICP and essDOCS' DocEx platforms to Contour's trade finance blockchain ..."</p> <p>Cargill</p>		<p>The world's first cross-border Renminbi (RMB) denominated blockchain-based Letter-of-Credit (LC) transaction</p>	<p>"As a leading manufacturer of plastic films and packaging in Malaysia, we are always on the lookout for the latest innovative initiatives to keep up with changes in the digital and economic spheres. We are therefore proud to be part of the first trade transaction in Malaysia using the revolutionary blockchain technology—especially when we are the first in Malaysia to do so with HSBC."</p> <p>Shahid Chachia, Joint MD of Simply Packaging</p>

Next Steps

The benefits of Contour will come to the market in 2020 with its commercial launch. But this will be just the start of a bigger story, as LCs are reinvigorated—boosting trust in international trade and ultimately the volume of LC transactions. “Our vision for the future is more world trade,” says HSBC’s Venkatraman. “This means providing tools to corporates that enable them to get into new markets faster and with less risk. With Contour changing the value equation, we’ll soon see that 15% of world trade dominated by documentary credit could go digital—and then we’ll see trade, and traditional trade finance, grow too.”

Contour itself is also set for expansion—not just in terms of usage but also functionality. “Aside from Contour, R3 has lots of other projects on Corda in areas like know-your-customer (KYC) and payments,” comments Bangkok Bank’s Pintuwan Kleijssen. “Going forward, as automation increases and Contour becomes more integrated with other Corda applications, Contour users will benefit from straight-through-processing that’s truly end-to-end—from onboarding the customer to delivery and payment for goods—via a single platform.” For any corporate or bank involved in international trade, that’s a prospect that’s not just exciting, but electrifying.





Continue the conversation

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About R3

R3 is an enterprise blockchain software firm working with a broad ecosystem of more than 350 participants across multiple industries from both the private and public sectors to develop on Corda, its open-source blockchain platform, and Corda Enterprise, a commercial version of Corda for enterprise usage.

The Corda platform is already being used in industries from financial services to healthcare, shipping, insurance and more. It records, manages and executes institutions' financial agreements in perfect synchrony with their peers, creating a world of frictionless commerce. Learn more at r3.com and corda.net.

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