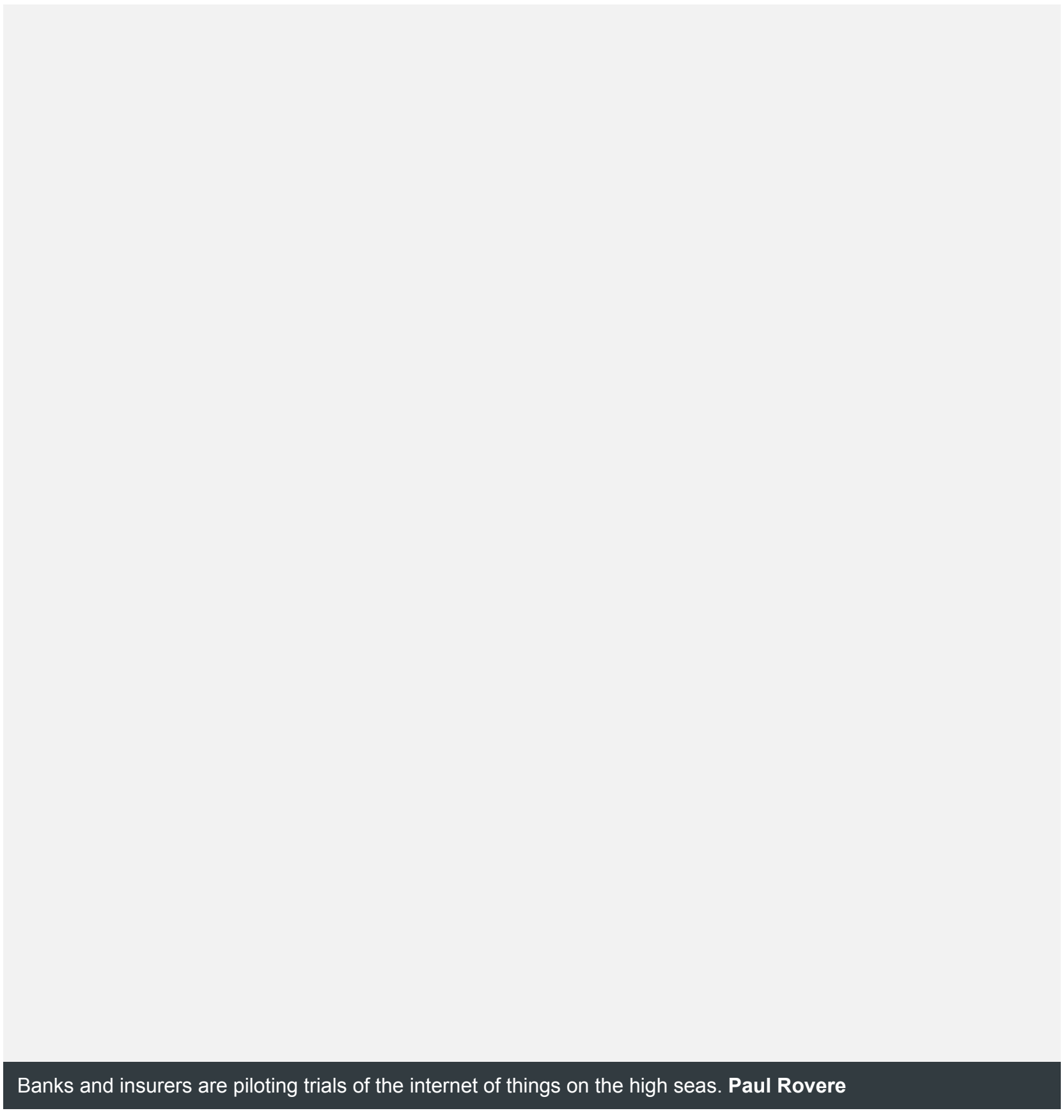
Jul 25 2016 at 12:15 AM | Updated Jul 25 2016 at 12:15 AM

Why trade finance is a good use case for blockchain



Banks and insurers are piloting trials of the internet of things on the high seas. **Paul Rovere**

Trade finance is shaping up as one of the most promising early use

by **James Eyers**

cases for blockchain technology.

The arrival of blockchain is prompting banks to search for analogue processes across the global economy which could be digitised to reduce financing risk. As a cumbersome process using multiple paper-based contracts with settlement typically taking weeks, the $US4 trillion ($5.3 trillion) trade-financing industry is set to be revolutionised by distributed ledger technology in the coming years.

Many of the world's largest banks and various start-ups have been pumping funds into blockchain research and development. They are now branching out of their laboratories to explain the opportunity to customers.

In the trade finance space, this means importers, exporters, government agencies, shipping companies, logistics and transport operators and insurers – whose buy-in will be required for a new system to get off the ground. Blockchain could be used to digitise sales and other legal contracts, allow the location of goods to be monitored and facilitate payments in close to real time.

For R3 CEV, the consortium of 51 global banks investigating blockchain applications, trade finance has risen towards the top of potential use cases and has become one of the group's main areas of focus.

Niki Ariyasinghe, R3's associate director for product strategy in APAC, says over the next 12 to 18 months, various trade finance pilots will be tested in the market, and within three years, real trade in physical goods could be underpinned by smart contracts executing payments on a blockchain.

"I think you will see an actual, live in market proposition within two to three years," he said last week at an panel, Emerging Digital Futures: Global Trade, hosted by Commonwealth Bank of Australia.

Bank launches pilots

R3 is working with its members – which include CBA, Westpac, National Australia Bank and Macquarie Group – to create common standards that banks and their customers can plug into.

CBA has completed more than 25 blockchain-related experiments over the past year and now reckons trade finance is one of the areas offering the most potential for blockchain, which refers to networks of computers holding synchronised copies of information.

At present CBA has three projects under way with global banks and export clients, including one sending shipments of cotton abroad. In this trial, a humidity monitor inside a cotton container, linked to GPS technology connected to the "internet of

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things", can provide the insurer of the goods and the buyers with real-time status of the physical condition of the commodity.

Ariyasinghe says a similar pilot is under way by a Singapore-based start-up, Hellosent, which monitors the condition of French wine being exported to Singapore. This allows insurers to receive automatic, real-time data feeds about the temperature inside the container and conditions at sea that might spoil the wine.

Standard Chartered, HSBC, Bank of America and Singapore's DSB Group are all looking at blockchain trade finance applications, according to Bloomberg. Banks are thinking that the technology will also help to reduce growing incidences of fraud in trade-related documentation.

R3 was originally formed 18 months ago to help banks learn about blockchain and develop protocols for its use. The consortium has investigated payments and trading commercial paper. As well as trade finance, it is also testing how blockchain can be used to verify identity.

Ariyasinghe says R3 is trying to solve big challenges for financial services and adjacent sectors. "The underlying thesis behind R3 is to solve some of these global challenges and you really need to be able to partner with a large number of providers. It could be banks, obviously, and will also be insurance providers, regulators and players working on a regional and global scale, not just in financial services."

Sowing in wheat

Start-ups are also working on bringing diverse players in trade together. One Australian blockchain start-up, Full Profile, is preparing for a commercial pilot to run during the wheat harvest in October that will see a buyer of wheat pay growers over a blockchain, eradicating the settlement risk held at present by farmers.

It typically takes about 30 days for grain growers to be paid upon delivery. In 2014, growers lost $70 million in NSW and Victoria alone due to grain trade insolvencies. This resulted in an estimated $200 million loss in economic activity across regional Australia. Full Profile's technology enables automatic payment upon title transfer or physical delivery of grain, removing the risk to growers of buyers becoming insolvent or having problems with payments.

Founder Emma Weston, a former lawyer for the Australian Wheat Board, says trade finance "is shaping up as a really good use case [for blockchain] and will expand activities that have taken place in financial services to the broader market, which is a natural evolution".

In June, Full Profile won both the 2016 Westpac blockchain hackathon and the blockchain start-up pitch event at the Blockchain Summit organised by the fintech venture capital firm Sapien Ventures. The company will provide a global demonstration of its agribusiness blockchain at the FinovateFall in September in New

York.

Once the technology is trialed and working in a domestic context, Weston says Full Profile will work on applications for external trade. Her key challenge is getting all the different parties to agree on standards for the "smart contracts" underpinning the payments transactions. But she remains optimistic this will come together.

The federal government's Grains Research and Development Corporation is a beneficiary of the trial and Weston says she has found a "real willingness in the various regulators and state and commonwealth governments to engage with the private sector on blockchain".

"The onus is on us to move blockchain into production and help the government understand the possibilities of the technology and help solve regulatory issues together."

An attractive area

King & Wood Mallesons partner Scott Farrell is the blockchain co-ordinator of the federal government's fintech advisory group set up earlier this year by Treasurer Scott Morrison. He agrees that trade finance is an attractive area where the technology can be applied.

Farrell also says the government will play an important role to bring blockchain to reality and one of the areas where governments can take a leading role is on identity.

"The crunch point of blockchain is the validity of what you put in at start, the entry points," Farrell says. "The most important input is who you are. But most identity frameworks have their source in the public sector, not the private sector."

Treasury and the CSIRO are conducting an inquiry into the application of blockchain for the Australian economy which will include a real-world pilot of the technology. The area for the pilot has not yet been chosen.

Confidence shaken

Confidence in blockchain and smart contracts was shaken in June, when the Decentralised Autonomous Organisation (DAO), which was planning on operating an investment facility after raising $US150 million from 11,000 members, was attacked and $US50 million moved to a different account.

Farrell says the DAO events provided a very important lesson to parties building smart contracts on blockchains but did not demonstrate a failure of the technology generally. "It demonstrates the need to take extreme care with the automation of contracts on a blockchain but the platform itself worked as expected," he says. "Future smart contracts should be more robust."

Australia should consider itself a start-up in the development

of blockchain applications, and with the technology moving into pilots around the world, Farrell says it makes sense to develop local capability for the technology to be applied in ways that suit our economy and society.

"The combination of the trust engine of distributed ledger technology with the technology of the internet of things is not just about making things more efficient for banks but also more convenient for their customers. People who use finance will actually care about this."

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