Use Case Library

Using Smart Contracts to Underwrite Climate Risk

Executive Summary Written by GBBC

Extreme weather events, natural disasters, and the failure to mitigate and adapt to the effects of climate change, are all included in the top global risks identified by the World Economic Forum's Global Risks Report 2020. Businesses whose revenue models are impacted by weather-related events are systemically underserved by the risk management industry. This is, in large part, due to the number of disparate parties that need to work together to deliver efficient risk management solutions.

The Demex Group, a climate risk insurtech firm backed by reinsurer Munich Re, solves this problem by employing distributed ledger and smart contract technology to deliver a commercial platform that enables disparate parties to transact in an efficient and trustworthy manner. To simplify this, Demex partnered with GBBC member Blockchain Technology Partners (BTP) to provide the underlying blockchain and smart contract infrastructure deployed and managed by their platform, Sextant for Daml. Daml is an open-source smart contract language, created by fellow GBBC member Digital Asset, and purpose-built for coding complex multiparty business processes.

BTP partnered with Digital Asset to develop Sextant for Daml, providing enterprises with a production-grade platform that enables them to focus on multiparty application development. The value of implementing Daml smart contracts on a distributed ledger is that the agreed-upon business logic is enforced programmatically on the blockchain — in this case, Hyperledger Sawtooth — which means that the rules are stored immutably and validated via the consensus algorithm. This creates a trust architecture for automated business transactions, translating into less costly due diligence and more timely payouts for a policyholder. For example, independent third-party data can be cross-referenced within the rules, automating the payout by the risk provider when the policyholder needs it the most.

The Demex Group's climate resilience use case shows how distributed ledgers and smart contracts can improve current risk management practices and demonstrates these technologies' undeniable potential to reduce frictions in other risk scenarios. Arming organizations with the ability to decrease the severity of an event — whether that is a cybersecurity exploit, natural disaster, system failure, or other — before it happens will help them save money, as well as avoid compliance violations and damage to their reputation.