

# Insurance and blockchain: What policyholders need to know

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Distributed Ledger Technology, commonly referred to as “blockchain,” is a secure way for companies and individuals to share information without third-party oversight. Blockchain decentralizes electronic record-keeping so users can easily share, add and update information. Individual records or groups of records (the “blocks”) automatically link to previous records (the “chain”) to provide an electronic chain of custody.

While any number of users can add and share information, no user can unilaterally change previous blocks in the chain. Users can rely on the information in the blocks without a central authority administering the ledger. Blockchain reduces transaction costs and renders cumbersome and costly information-sharing processes more efficient and effective.

More-complicated applications of blockchain embed contract language into blocks. These “smart contracts” trigger automated responses, such as issuing payment, when a specified condition or set of conditions is met.<sup>1</sup>

For example, in the insurance context, a blockchain-based property policy could include smart contract language that automatically alerts a regional claims office to dispatch drones to survey an area when the National Earthquake Information Center reports an earthquake of a certain magnitude.

Numerous other concepts are under consideration, such as automated claims when certain weather events occur in a given area.

Because insurance is a data-intensive industry, adopting blockchain creates substantial advantages for insurance companies. As a result, insurers are aggressively exploring applications of this technology.

Policyholders should pay close attention to these developments to plan for the potential transition to blockchain-based insurance applications and ensure their organizations benefit from the adoption of blockchain without forfeiting control over a critical business asset: their organization’s data.

## REAL WORLD DEVELOPMENT OF BLOCKCHAIN INSURANCE APPLICATIONS

Insurers are adopting blockchain applications in at least four areas: underwriting, claims management, fraud reduction and reinsurance. These areas are historically high cost centers for insurers, so blockchain applications represent the potential for substantial cost savings

### Underwriting

Essentially, underwriting is the process of measuring a company’s risk and expressing it in currency. To perform this function, insurers gather information and make predictions based on complicated risk models.

But getting information from policyholders, cataloging the information into useful data and drawing meaningful conclusions requires a significant investment of time and labor. Blockchain streamlines these functions.

Microsoft, EY, Willis Towers Watson and Maersk developed a supply-chain blockchain application that, in addition to performing other functions, securely shares shipping data with insurers in real time, which allows parties to set agreed-upon premiums more efficiently.<sup>2</sup> Marine insurance, despite being one of the oldest categories of insurance, has struggled with efficiency.

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**Blockchain could be a huge boon to both insurers and policyholders because more complete, accurate data should allow both parties to measure and mitigate risk more efficiently.**

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Because cargos change and ships are most often in motion, gathering and auditing shipping records poses numerous hurdles for insurers. Maersk’s blockchain application reduces the cost of gathering data and administering insurance programs and mitigates the risk of inaccurate or tampered-with data.

The company’s 20-week proof-of-concept trial was completed in late 2017, with the primary participants declaring the trial period a success. The success of this trial in the challenging marine insurance market portends successful future development of blockchain applications for this and other insurance markets.

Insurers can also implement blockchain to increase underwriting accuracy and efficiency by combining blockchain-based ledger and smart contract functions with the data-gathering capability of the internet of things and the data-processing promise of artificial intelligence.<sup>3</sup>

These three technologies create a platform on which insurers can dramatically improve risk modeling and assessment techniques. Insurers can gather information through connected devices,

organize that data on a blockchain application and use artificial intelligence to analyze the data, predict losses and set premiums more accurately.

While this combined approach to underwriting may be several years away, policyholders should expect insurers to insist on new data-gathering techniques in the future. Insurers already offer data gathering as a coverage enhancement by offering customers the option to share real-time driving data, either through an after-market monitor or by sharing manufacturer-driving data, in return for a premium reduction.

### **Claims management**

Insurance companies devote enormous resources to claims management. Managing the entire claims process, from receipt of the claim to final resolution, requires a substantial investment of resources. Blockchain streamlines the information-sharing process and can automate elements of the claims process, even in complex regulatory environments.

In 2017, AIG, IBM and Standard Chartered Bank PLC announced a partnership to test a smart-contract insurance policy.<sup>4</sup> The smart contract, which includes a master policy and three local country policies, allows stakeholders to view policy data and documentation. It also automates portions of the claims administration and communication process to all parties in near real time.

The parties chose a multinational master policy as a proof of concept to demonstrate the cost reduction for both insurance companies and policyholders when administering complex insurance programs on a blockchain application. This proof of concept is still underway.

Similarly, in November 2017, Allianz announced a successful trial of a blockchain application for captive insurance companies that provides payment-processing services and integrates claims-administration functions for key stakeholders, including local subsidiaries, captive management and the fronting insurer.<sup>5</sup>

The parties can share information in real time and automate claims functions, reducing costs and improving communication.

The RiskBlock Alliance, an industry-led consortium of property and casualty insurers, developed a blockchain application to streamline auto-claims management and digital proof of insurance, eliminating the need for paper insurance cards.<sup>6</sup>

The group said it expects that this project, which Nationwide is field-testing this year, will improve the driver experience, reduce claims administration expenses and transfer information more easily between all parties after an accident.

### **Fraud reduction**

The Insurance Industry Institute estimates 10 percent of property and casualty insurers' loss-adjustment expenses

and claims payments are fraud-related.<sup>7</sup> Fraud costs property and casualty insurers about \$34 billion each year.

Blockchain applications reduce fraud in several ways. Specifically, they allow insurers to validate documents' authenticity, including ownership records. They also enable insurers to verify identity and detect patterns of fraudulent behavior.

Finally, they give insurers the ability to prove dates and times of policy issuance, and to confirm ownership and location changes.

Insurers can use blockchain applications to share indicators of potential fraud and thus collaborate to reduce fraud. Prior insurance industry initiatives to share information to fight fraud faced challenges due to the difficulty of sharing and managing a database that by necessity includes personally identifiable information and loss data with industry competitors.

Blockchain allows insurers to share information efficiently and securely, reducing the barriers to information sharing. While insurance companies have not advertised fraud-reduction blockchain applications as they have in other areas, fraud reduction is one of the byproducts of the data-gathering and data-sharing applications of blockchain tools.

### **Reinsurance**

Reinsurance allows insurers to lay off a portion of their risk to another insurance company in exchange for a premium. Reinsurance follows the fortunes of the primary insurance policy,<sup>8</sup> so the reinsurer must reimburse the insurer for payments made to insureds.

Because reinsurers have very little recourse in determining whether a claim is paid, insurers owe a duty of utmost good faith.<sup>9</sup> They must ensure that they share timely and accurate information with reinsurers or risk substantial financial exposures they did not reserve for and were not prepared to pay.

Blockchain allows information sharing in real time, so insurers and reinsurers can substantially reduce the transaction costs associated with placing and managing reinsurance contracts — and reduce the likelihood of unpaid claims due to failure to share information.

Automation of reinsurance-settlement functions reduces the time spent determining quarterly payments between companies with multiple contracts and facilitates overnight cross-border payments, improving financial reporting for insurance companies. These potential benefits led to the formation of the Blockchain Insurance Industry Initiative called B3i.

Formed in 2016, B3i announced major expansions in 2017 and introduced a prototype blockchain reinsurance policy, which entered the non-member testing phase in late 2017. B3i's prototype allows multiparty transactions and smart contract

logic (including multilayer logic), and provides on-blockchain processes for approvals, settlements and asset transfers.<sup>10</sup>

### POTENTIAL IMPACT ON POLICYHOLDERS

Blockchain will likely impact policyholders through claim automation and data commodification. Policyholders should properly plan and negotiate placement of smart insurance policies to minimize the adverse effects of both automation and commodification, while leveraging the potential cost-saving benefits of blockchain for premium reductions where possible.

#### *Policyholders could face increased claims automation*

Automating claims-handling, if done correctly, can greatly benefit policyholders. Reducing the time to payment for first-party claims improves liquidity and cash flow, allowing companies to more efficiently direct their recovery efforts following an insured event. Reduced administration costs and overhead for first- and third-party claims benefits policyholders and insurers.

But policyholders should be vigilant when agreeing to blockchain-based claims-automation programs. Claims automation without proper policyholder controls could wrest critical input from policyholders: Should we submit this claim? How should we describe the claim event? When did the event occur?

Under the existing claims paradigm, policyholders can assess an event, determine the best strategy to manage and report the claim (in strict compliance with the policy's notice requirements), and present the claim in a manner that maximizes the potential coverage available while accurately depicting the triggering event. This reporting process can range from simple and formulaic for routine claims, to complex and customized for unique or substantial claims.

Automating the process without carefully considering the ramifications could lead to denial of potentially covered claims due to the design of the automated information-reporting system.

Policyholders should pay careful attention to which portions of a claims management process are automated, what information is shared, how that information is presented, and whether the policyholder can invoke a mechanism to dispute automated claims decisions.

As is the case with many risk management functions, claims automation threatens to upset the delicate balance between business efficiency and preserving pre-purchased insurance coverage.

Driving down the cost of administering complex multinational insurance programs through blockchain, whether the policyholder retains the risk through a captive (as with the Allianz prototype) or lays the risk off to an insurer (as with the

AIG-Standard Chartered prototype), could financially benefit policyholders.

But they should carefully consider which claims functions are automated and how those functions are automated during policy placement and renewal to ensure that the level of automation suits their interests and does not jeopardize coverage.

Valuing and protecting proprietary data Insurance is and always has been a data-driven enterprise, and blockchain makes it possible for insurers to gather, organize and analyze data more efficiently than ever before. As the Maersk blockchain trial demonstrated, sharing hard-to-access data in real time on a blockchain allows parties to set premiums much more quickly than in the past.

Blockchain could be a huge boon to both insurers and policyholders because more complete, accurate data enables both parties to measure and mitigate risk more efficiently.

Despite blockchain's benefits, policyholders should not allow unfettered access to their proprietary data in exchange for reduced premiums. While improving risk assessment could benefit some policyholders through reduced premiums, policyholders should carefully consider the type of data shared with insurers, the format of the shared data and the timing of access to that data.

Policyholders who negotiate restricted access to source data and instead present analytical results during renewal may obtain lower premiums than those companies that simply allow insurers continuous access to source-level data. Providing unrestricted data access to insurers could lead to all sorts of unforeseen consequences for insureds and could reduce or eliminate the value of proprietary data.

Policyholders must carefully balance the short-term benefits of premium reduction with the long-term costs of surrendering valuable proprietary data to their insurance companies. The balance between cost savings and data protection will vary across industries and insureds, but policyholders must proceed cautiously as insurers promote the advantages of blockchain to them.

Handled correctly, blockchain applications should benefit both policyholders and insurance companies. Handled incorrectly, policyholders could find themselves unexpectedly disadvantaged through the loss of valuable proprietary data.

As with any new technology, insurers and insureds alike should proceed with caution while implementing this fascinating new development.

### NOTES

<sup>1</sup> Arizona recently enacted a statute recognizing signature through a blockchain as a valid electronic signature on a contract. See ARIZ. REV. STAT. ANN. § 44-7061 (2017). The statute defines "blockchain technology" as a "distributed ledger technology that uses a distributed, decentralized,

shared and replicated ledger, which may be public or private, permissioned or permissionless, or driven by tokenized crypto economics or tokenless. The data on the ledger is protected with cryptography, is immutable and auditable and provides an uncensored truth.” It defines a “smart contract” as an “an event-driven program, with state, that runs on a distributed, decentralized, shared and replicated ledger and that can take custody over and instruct transfer of assets on that ledger.”

<sup>2</sup> Jemima Kelly, *EY Teams up with Maersk, Microsoft on Blockchain-Based Marine Insurance*, REUTERS, Sept. 5, 2017, <http://reut.rs/2jFuZVK>.

<sup>3</sup> Katherine J. Henry & Brendan W. Hogan, *Blockchain: The Policyholder Plan for Smart Insurance Policies*, BRADLEY (July 27, 2017), <http://bit.ly/2scLtZh>.

<sup>4</sup> Press Release, IBM, AIG, IBM, Standard Chartered Deliver First Multinational Ins. Policy Powered by Blockchain (June 15, 2017), <https://ibm.co/2rkuYW2>.

<sup>5</sup> Press Release, Allianz Global Corporate & Specialty, Allianz Pioneers Blockchain Prototype for the Captive Insurance Market (Nov. 7, 2017), <http://bit.ly/2AsjhSk>.

<sup>6</sup> Mark Hollmer, *New Product Uses Blockchain to Show Proof of Insurance*, INS. J. (Dec. 27, 2017), <http://bit.ly/2Eo93n4>.

<sup>7</sup> *Background on: Insurance Fraud*, INS. INFO. INST. (Nov. 6, 2017), <http://bit.ly/2GUJ34z>.

<sup>8</sup> *Am. Ins. Co. v. North Am. Co. for Prop. & Cas. Ins.*, 697 F.2d 79 (2d Cir. 1982).

<sup>9</sup> *Compagnie De Reassurance D’Ile De Fr. v. New England Reinsurance Corp.*, 57 F.3d 56 (1st Cir. 1995).

<sup>10</sup> *Our Product*, B3I - THE BLOCKCHAIN INS. INDUS. INITIATIVE, <http://bit.ly/2GSGeRO>.

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