



Executive Brief of the
WHITE PAPER
VERSION 0.3.2

Not intended to be a technical White Paper
for SkyRig or any of its products, services or offers.

SkyRig
AUTONOMOUS ENERGY BLOCKCHAIN
skyrig.io | skyrig.net

Copyright © 2018



The Future of Oil & Gas on the Blockchain

White Paper / v 0.3.2 / 02-2018

This is the White Paper regarding the incorporation of adaptive analytics with decentralization of oil and gas (O&G) contracts, transactions and trading using the inherent efficiencies of blockchain and distributed ledger technology (DLT).

As we will explore in this document, SkyRig employs blockchain automation to create an unprecedented level of precision within custom smart contracts for the O&G industry. SkyRig Smart Contracts have the ability to collect and embed transaction terms, linked in “real-time” to detailed daily operational well data metrics, and machine learning predictive analytic conditions.

SkyRig and SkyRig Smart Contracts are an adaptive, real-time data driven cryptocurrency and autonomous ledger for the oil and gas industry. Market prices, currency fluctuations, and other complex royalty arrangements are combined with real-time metrics such as operational throughput, efficiency and trends at the O&G well level which are continuously collected by SkyRig’s autonomous “data sniffing” drones.

OVERVIEW:

SkyRig Autonomous Energy Blockchain

It is widely known that the concept of smart contracts executed on the blockchain is fueling much of the current revolution and excitement in distributed ledger technology. This concept has benefited various markets offering digital content and other services of value. But, these markets pale in comparison to the hundreds of millions of dollars in transactions and payments occurring on a daily basis in the energy sector.

The resource-intensive way that global energy concerns currently account for the complex royalty arrangements, payments, government entities and international players in most large scale energy contracts, provides a perfect platform for leveraging the blockchain's ability to automate all of these things in a completely open, validated and decentralized fashion.

It will become clear in this paper how automating these complex oil and gas transactions and royalties, among so many different parties, within a decentralized but authenticated model would revolutionize the energy sector.

What if one had access to intimate knowledge regarding specific oil well operations? What if one knew more, and knew it sooner than even the oil field operator? What if this information could be analyzed and already embedded into a predictive learning, self-executing contract?

How could transactions and contracts in the energy services sector instantly know and account for every present and future factor that will affect its profitability and risk?

Introducing: **SkyRig – Autonomous Energy Blockchain**
Next Generation AI Smart Contracts for the energy sector.

SkyRig - Autonomous Energy Blockchain Next Generation AI Smart Contracts

SkyRig and the SkyRig Foundation have leveraged years of their own research and innovation in the oil and gas industry, aerial data collection, proprietary drone-based technology, transactional processing and predictive data analytics to create the SkyRiG – Autonomous Energy Blockchain, a next generation AI smart contract.

Building upon patent-pending technologies that were developed for the automated collection and processing of O&G well data (via drones), SkyRig has begun the development of its first self-executing oil and gas royalty smart contracts (SkyRig Smart Contracts).

SkyRig Smart Contracts are unique because they are automated against the blockchain, while being tied to specifics within the actual operational field data, creating a unique synergy and efficiency between the markets and field operations. SkyRig Smart Contracts can learn and predict in extraordinary detail.

Using SkyRig Smart Contracts, royalty payments, profit-based pricing and other contract terms are instantly adjusted and enforced based on metrics in O&G well profitability, real-time observations of operational costs, physical O&G well performance, market rates and indices and more, making SkyRig contracts not only smart, but inherently predictive of the future.

SkyHum Cloud Servers house the AI-based predictive analytics and machine learning algorithms, producing a predictive analytics back end for all critical operational O&G well data in the SkyRig network. This data is instantly subjected to a sophisticated array of predictive analytics and machine learning algorithms to not only see intricate patterns in well operational data and account for them in the financial transaction, but to accurately predict future operational well performance and profitability.

SkyRig allows the client to embed the results of the predictive analytics into the smart contract in the form of anticipatory clauses or actions, greatly mitigating any ongoing risk for the parties of the transaction.

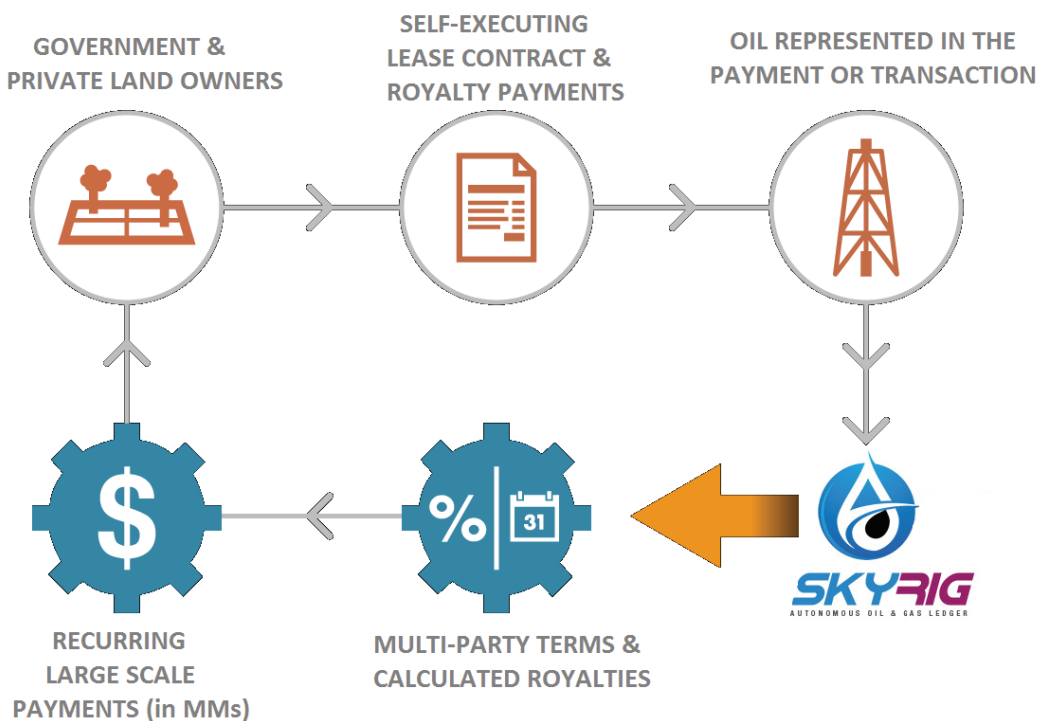
SkyRig Smart Contracts don't just automate the current complexity in hundreds of billions of daily oil and gas transactions, but further embeds into the contract the intelligence and precision of having an intimate and complete operational knowledge of the assets in the field, giving SkyRig not only the knowledge of the ongoing profitability of those assets, but also future operational profitability of those assets, trends in an oil or gas field region, or even what to expect in the futures markets themselves.

SkyRig Token-Based Economy International Exchange Matrix

Two extraordinary things happen when the SkyRig Smart Contract self-executes.

First, since this transaction is part of an active transactional market that is currently measured in the *trillions annually*, each self executing contract would by necessity initiate a large scale purchase of tokens whose representative fiat amount easily dwarfs virtually all other tokens in the current marketplace, save possibly Bitcoin itself. Instead of the typical crypto exchange of a few hundred dollars, or even thousands of dollars, the average SkyRig royalty payment would typically be measured in the millions.

Further, as the payments convert back to various international fiat currencies to make the lease royalty payment, this exchange volume of SkyRig tokens to fiat is immediately doubled on the payout. This immediate naturally formed matrix of international exchange rates from SkyRig to the national currency of oil producing nations worldwide imbues the SkyRig token with exceptional and immediate global value.



Secondly, aside from these valuable pairings to currencies worldwide, every SkyRig token would also represent a peer value to oil or gas itself, set at the instant of the transaction. Since these tokens would be constantly circulated via their daily transactions as a secondary currency among large oil producing countries and companies processing their existing daily transactions, it would be reasonable to view the token tacitly assuming a role as an index of current oil prices, and even used as a secondary hedge among these companies, countries, and operators against the natural volatility in the markets. The innate value of a token like this supersedes anything the market has seen, including even BitCoin, Ethereum, and the like.

Even small market acceptance and use of SkyRig self-executing contracts among the global energy companies that SkyRig is already working with would make SkyRig far and away one of the most valuable tokens in the complete blockchain ecosystem.

Argument for Distributed Ledger Technology in Oil & Gas

As expected, industry heads are beginning to take notice of Distributed Ledger Technology as David Eyton, head of technology for BP (British Petroleum) stated recently, “Blockchain can be much more efficient in terms of speed and verification of transactions.”

BP’s interest is an example of how multinational companies are increasingly seeing opportunities for blockchain to streamline financial processes and cut back office costs by removing middle-men and invoicing from many transactions - including live training.

Mr Eyton went on to say how oil and gas trading was just one of many potential applications for blockchain across BP — externally and within the organization — using traditional currencies rather than cryptocurrencies. “In a big company, with lots of different corporate entities, you have to manage financial settlements and reconciliation between different parts of the business,” he told the Financial Times. “A lot of that lends itself to blockchain.”

Other examples of “traditional” industries adopting blockchain include AP Moller-Maersk, the Danish shipping group, which is using it in marine insurance contracts and Europe’s biggest banks, including HSBC and Deutsche Bank, in cross-border trade finance.

Three of BP’s blockchain consortium partners, ING, Societe Generale and Mercuria, carried out a test of a live oil trade between parties with Mercuria at the start of 2017. The successful experiment involved a shipment of African crude, which was sold three times on its way to China, and included traders and banks, as well as an agent and an inspector, all performing their roles in the transaction directly on the prototype Easy Trading Connect blockchain platform.

In March 2017, banking group Natixis, IBM and Trafigura pioneered the first blockchain trade for US crude oil. They used a distributed ledger platform, built on the Linux Foundation open source Hyperledger Fabric, which they said was designed to be adopted at scale across the entire crude oil trading industry. European electricity and gas companies have also tested pilot blockchain trading projects.

In May 2017, over 20 European energy trading firms joined forces to develop peer-to-peer blockchain-based trading using Hamburg-based IT company Ponton's Enerchain framework.

In June 2017, BP and Italy's Eni completed a pilot program for processing European gas trades using blockchain technology developed by Canada's BTL Group. This focused on gas trade confirmations, and the plan is to look at expanding it to other back office processes, including netting and generating invoices. In October 2017, E.ON and Enel completed a first power trade using the system.

These efforts are in their infancy but clearly point to the inherent match between the blockchain and multinational commodity based companies - especially in the behemoth market example of the oil and gas market.

First Bitcoin Capital CEO Greg Rubin, an international energy products investor with vast experience in the oil and gas industries, says the challenges facing many companies require a new way of thinking. "Oil and gas companies could benefit from blockchain technology for a range of applications, from optimizing efficiency to transparency in business transactions, to securely storing inventory data on the blockchain. In the last few years, the industry has struggled with price volatility and production levels, which has led to cost-cutting efforts, reduced outputs and layoffs," notes Rubin. "These challenges have prompted many companies to rethink how they operate and to identify new ways to optimize supply chain management and transaction processing.

As such, blockchain is gaining traction and broader acceptance by the oil and gas industry for its potential to fundamentally change the way certain transactions are conducted.”

According to Deloitte and Touche, the obvious points of impact of blockchain in the oil and gas arena are expected to be in four primary areas: Transparency, Cyber Security, Mid-volume trading and third-party impacts, and Smart Contracts. We will briefly explore each of these, but it is the last of these that SkyRig is most focused on.

Transparency and Compliance

In the area of transparency and compliance, the first area of immediate impact of Blockchain technology will, by design, translate to greater transparency and efficiency. The sharing of digital blockchain information as required in joint operating agreements could lessen, if not eliminate, the need for reconciliations between companies and for data hubs controlled by third parties.

Cyber Security

The second area of impact foreseen is in the area of cyber threats and security. The flip side of the anti-corruption/transparency coin is data protection, so just how can new technology ensure that critical information remains safe?

Smart sensors can provide critical information, such as real-time conditions for an undersea oil field operation, but such sensors currently are among the most insecure areas of a company's network. And the industrial espionage potential of a competitor gaining access to this information is substantial. Even the nominally central areas of a company's network, its core IT functions, are vulnerable to hacking, as many have discovered over the past few years. Biometrics may help “harden” access control, but where should the biometric file be stored? Where should the most sensitive information about top company officials be secured?

That's where new solutions built on blockchain technology come in.

MIT ENIGMA, for instance, was designed to be more secure than existing solutions in storing sensitive data such as biometric identity (a user's password) in an encrypted form and in tiny fragments, while continuing to allow the data to be useful even when encrypted and broken into fragments. Storing data in fragments at multiple sites rather than concentrating it into one place, raises the prospect of enhanced data security even without a fully encrypted system.

As an example of how technology responds to evolving enterprise needs, developers in the financial technology space are bringing code to data in what is known as the Open Algorithms, or OPAL project, which is also part of MIT Trust::Data. Rather than depositing key information in one centralized location, the operational codes are going to the source. Some experts believe this protects against placement of vital data in a singular location, which can be an invitation to hackers and increase fears of external breaches. It applies another coat of security to key company data.

Third Party Impacts

It is anticipated by many that applications are the next impact area. Inefficiency isn't unusual along the trade process. In fact, it occurs far too often. These points of resistance are spotlighted where IT systems must network with an outside system or systems. The complexity inherent in the system slows the exchange of critical data, which is the last thing an energy trader wants.

Blockchain-enabled applications can also address other issues that need to be reviewed, including the removal or reduction of brokers' fees, reduction in fraud, error, and otherwise compromised transactions, and limiting credit risk and transacting capital requirements.

For energy market participants, the value derived through the use of blockchain applications is compelling.

Blockchain technologies will not simply make the current markets more efficient. They have the potential to radically disrupt and open up the energy markets in ways people have not yet even considered. Boundaries between asset classes will blur as cash, energy products and other commodities, from industrial components to apples, could all become digital assets trading other commodities, inter-operably. If more value can be derived by not restricting activity to a single asset class, then that is where the market will go. Blockchain will provide this platform.

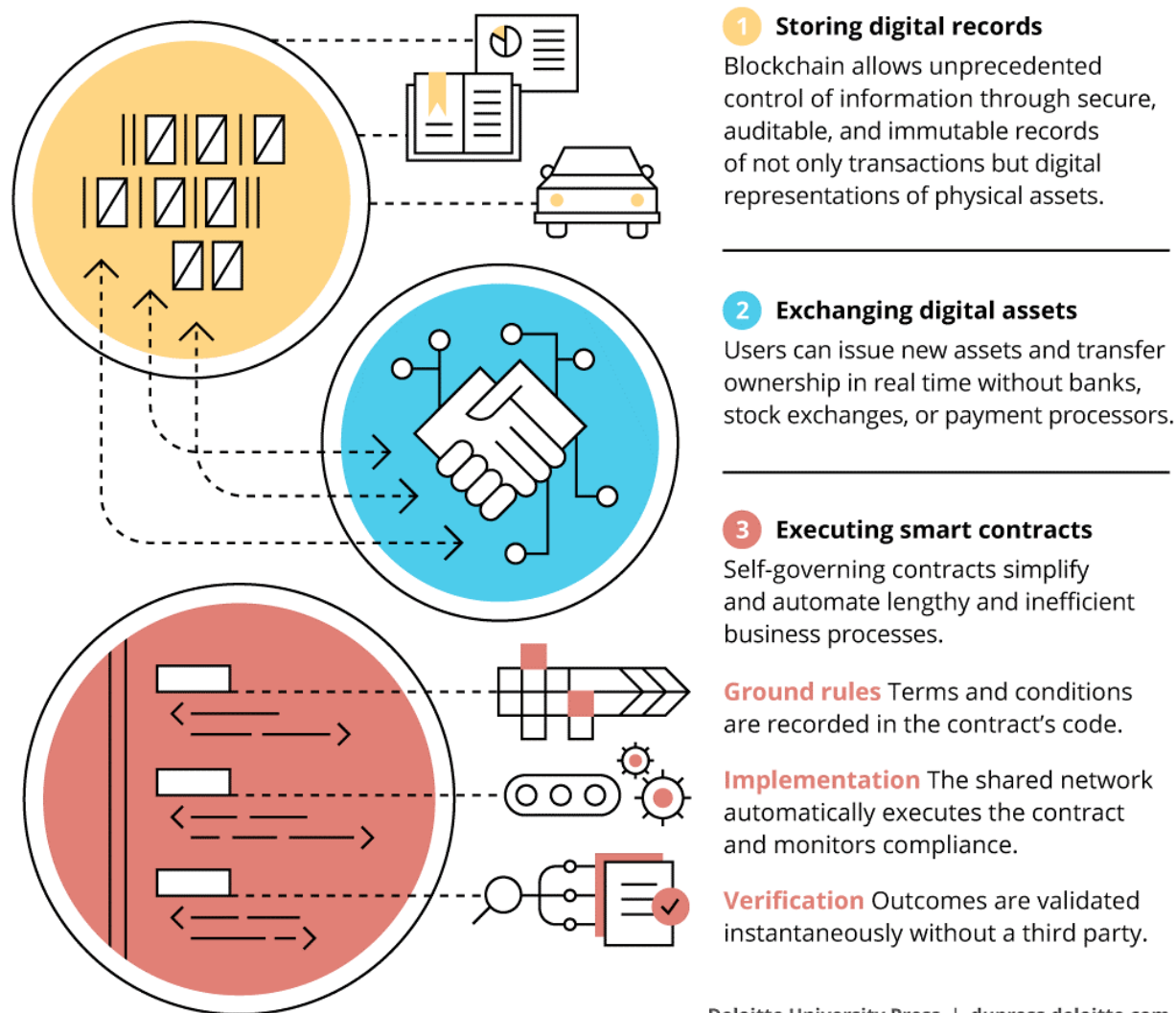
Smart Contracts

Smart contracts represent the biggest opportunity and are the primary focus of SkyRig's technology products, services, and platform. Years of volatility in commodity prices, growth stagnancy, and limited expansion have put exploration and production companies in a tough spot. They've been forced to drastically reduce drilling times and search for other means of reducing expenses to maintain (or come close to maintaining) acceptable margins.

The sheer size and volume of contracts and transactions to execute capital projects in oil and gas have historically caused significant reconciliation and tracking issues among contractors, sub-contractors, and suppliers. Challenges in managing logistics for supplies, tracking costs, and deploying inventory requires a heavy manual lift. Cascading POs, change orders, receipts, and other trade-related documentation and data on inventory could be achieved by following specific codified rules. Drafting agreements that afford new tracking, bookkeeping, and automation methodology should create a more seamless supply chain, improved capital project spend analytics, and simplified contractual obligations at each point along the way.

Simply put, knowing who gets paid what, why, and where; who is owed money; and who along the chain is performing as explicitly mandated by the agreement are potential game-changing elements of a distributed ledger strategy.

Figure 1. Three levels of blockchain



The very nature of blockchain technology makes it ideal for any kind of records management activity, including land transactions, sales of oil and gas, service contracts, sourcing contracts that often are complex and multi-jurisdictional, and joint ventures. Since all transactions are managed on a blockchain -- which are, by definition, chained together and immutable -- the management of a specific operation is verifiable and protective for all involved.

For all these reasons, there is little doubt blockchain companies will become a dominating presence in the execution of complex and international energy transactions and smart contracts in the oil and gas arena. The fit is simply too perfect. But this is merely the door that opens into a much larger market picture.

Oil and Gas Leases and Transactions

With the price of oil serving a universal effect on end unit purchase price for all energy services companies, what truly differentiates a successful operator or lease holder in the field versus an unsuccessful one lies primarily with execution in three main areas.

The three main areas that drive any successful energy services investment or oil and gas lease contract, can be tied to 1.) correctly identifying the profitability of a potential oil lease, contract, or asset, correctly predicting and executing on the medium and 2.) long-term operational profitability of the asset against the unknown future backdrop of fluctuating oil prices, and 3.) adeptly executing an oil and gas contract, lease or transaction that best exploits your insights, derived from your overall accuracy and proficiency correctly demonstrated in the previous two areas of knowledge.

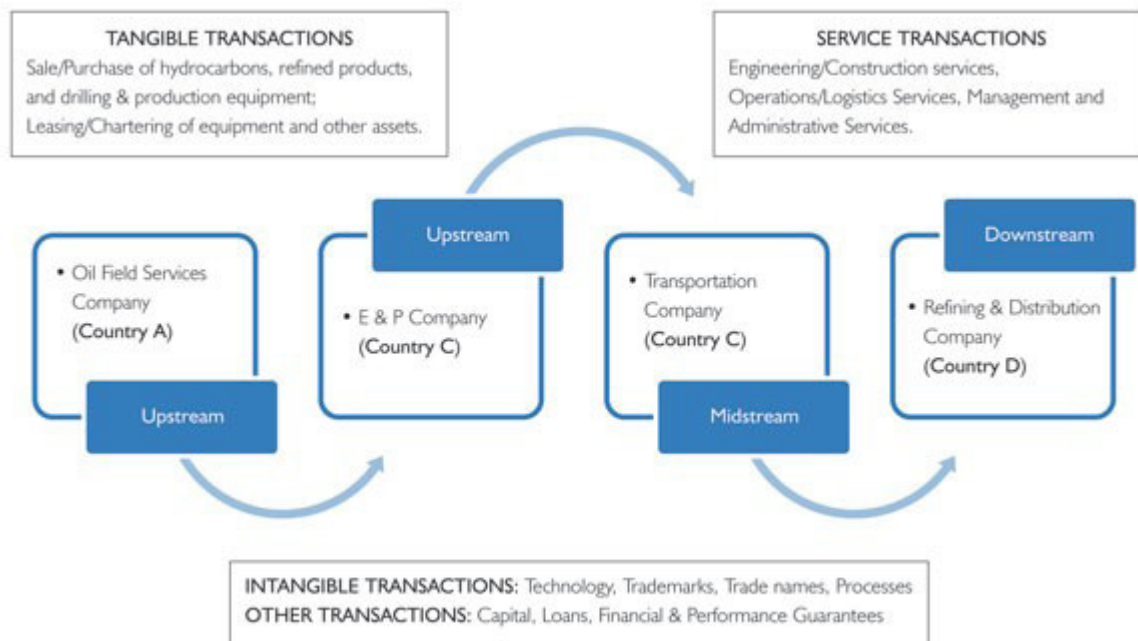
Real-Time Oil Leases and Smart Contracts

Experts estimate that for large natural resource extraction projects, there will be well over 100 contracts to build, operate, and finance it - all of which could fall under the broad category of 'petroleum contract'.

There may also be well over a 100 parties involved, including: governments and their national oil companies (NOCs), e.g. Saudi Aramco, Gazprom, Petronas international oil companies (IOCs), e.g. BP, Exxon, Chevron, CNOOC private banks and public lenders, e.g. JP Morgan, World Bank engineering firms, drilling companies & rig operators, e.g. Halliburton, Schlumberger, Technip transportation, refining and trading companies, e.g. Hess, Glencore, Trafigura, Koch Industries, and many others.

Among these many contracts, the most important one is between the asset owner and the IOC, it is this contract that SkyRig is focused on.

All of the other contracts must be consistent with and depend on this contract; these might be collectively referred to as “subsidiary”, “auxiliary” or “ancillary” contracts.



This contract is most commonly referred to by the industry as a “Host Government Contract” because it is a contract between a asset owner or government (on behalf of the nation and its people) and an oil company or companies (that are being hosted).

It is through this contract that the asset owner legally grants rights to oil companies to conduct “petroleum operations”. This contract appears in countries throughout the world under many names: Petroleum Contract Exploration & Production Agreement (E&P) Exploration & Exploitation Contract Concession License Agreement Petroleum Sharing Agreement (PSA) Production Sharing Contract (PSA).

SkyRig is positioned to implement the first production oil and gas contract platform utilizing the blockchain for energy related contract execution, complex royalty and lease payment terms, intercompany financial arrangements, different currencies, and other transaction processing. In fact, SkyRig is already in the process of offering this solution to some of the biggest companies in this market.

Smart Contract Example: Profit Sharing within Oil & Gas Contracts

Let's take a look at just one of these complex issues in energy service contracts - that of the profit sharing component in oil and gas royalty payments.

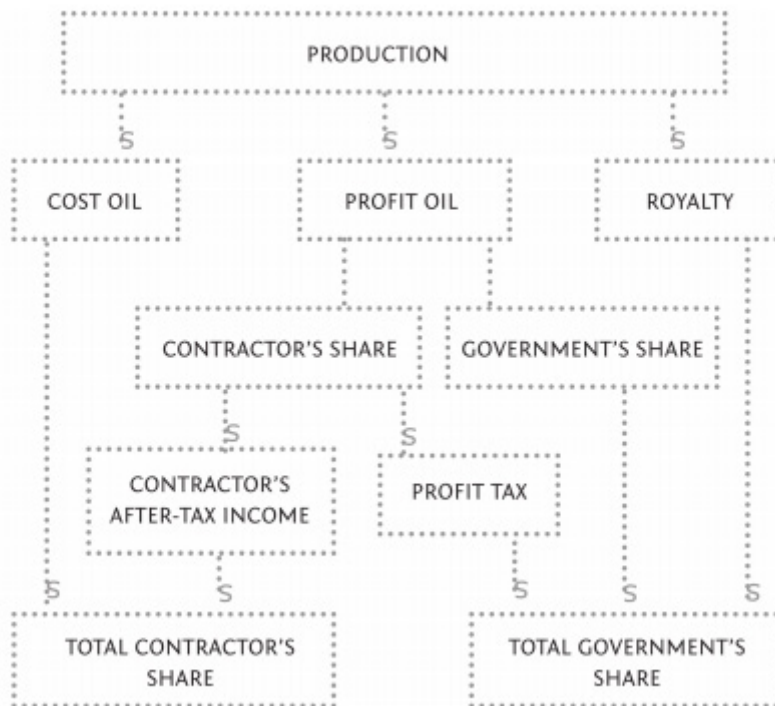
Every production sharing contract includes a fiscal formula that defines some of the production as 'profit oil' or 'profit gas' and shares it between the asset owner and an international oil company (or IOC).

In order to understand these concepts, we should return to the underlying concept of a production sharing contract which creates a relationship where the IOC is a 'contractor' to the asset owner, and it has been hired to perform petroleum activities in a contract area owned by the state. The IOC explores, and if successful exploration occurs, develops and produces petroleum.

It has incurred some costs in doing so. It is necessary to define in the petroleum contract: cost oil, which is the share of production that the IOC will receive for recovery of the costs it has incurred, which is subject to a maximum amount (the 'cost oil limit'); and profit oil, which is the share of production remaining after cost oil has been delivered to the IOC.

If the resulting production includes gas, there will also be a cost gas limit and a profit gas share, which often is a different limit and share owing to the economics of gas development.

The following diagram is a visual representation of how the total production is allocated between the IOC and the asset owner (in this case a government or state) in a production sharing contract:



What becomes clear is the sheer value of having operational data and its effect on even just the Cost Oil and Profit Oil components of the profit share itself.

Here is where a SkyRig Smart Contract or supported transaction not only brings the highly tangible benefits of blockchain technology to the energy services industry, but a SkyRig-based contract itself can be crafted to be adaptive in real-time to data from market prices, currency fluctuations, and other real-time metrics providing an unprecedented measure of precision and cost protection to oil companies, operators, and investors. How is SkyRig able to do this?

SkyRig Smart Contracts can embed terms based on real-time O&G well performance metrics into any oil lease, contract, or other transaction.

As seen in the previous example, what makes any transaction in oil and gas sectors more informed than any other is simple, it is the access to updated and precise data that drives the bottom-lines of that contract or transaction. The more detail and precision in that operational well data, the less risk and more profit in the terms of that transaction or contract. This is especially true in large, multi-international energy services explorations, joint ventures and the complex contracts and transactions that these entail.

What if the party investing or executing well leases knew EXACTLY what the operational throughput, efficiency, and trends would be at the well level? What if they had access to that data, in quantifiable form, every day for every well? Then that party could put interactive smart terms into these contracts and transactions that drastically lower normal operating risk. This would predictably and drastically increase profit while greatly mitigating operational risk.

SkyRig will provide its clients with this unprecedented level of data access, and in greater detail than is available anywhere, including from the operator.

SkyRig's digital currency will be at the heart of the SkyRig blockchain, becoming the common currency on which the oil or gas transactions and contracts are executed. This instantly positions SkyRig tokens as the BitCoin or Ethereum of an oil and gas marketplace that is already measured in the trillions worldwide.

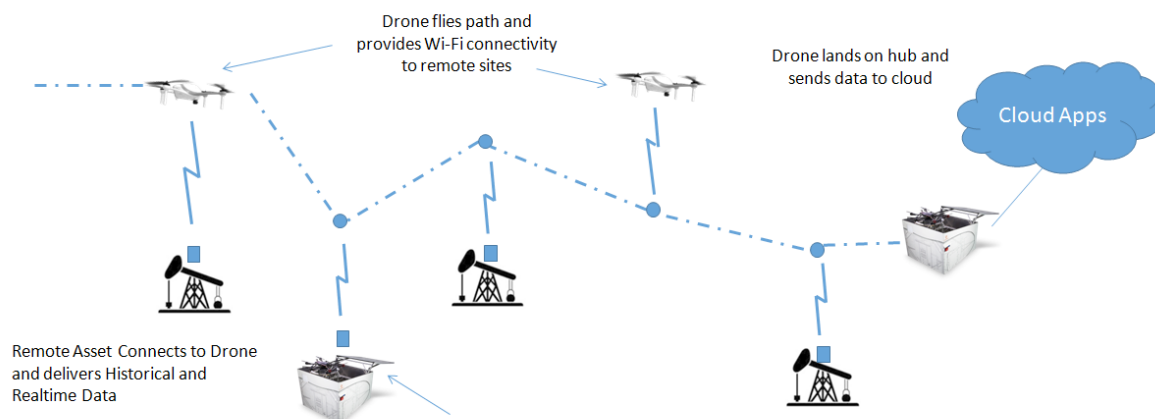
Unlimited Access to Real-Time Data via SkyRig “Well Sniffing” Drones

SkyRig™ software platform brings a uniquely elegant two-fold approach to oil and natural gas well monitoring, inspection, and communications while addressing a market need for lowering the ongoing costs of natural gas and oil well ownership.

SkyRig’s patent-pending approach addresses this need by greatly automating well data collection while at the same time performing mobile visual and laser-based operational and regulatory inspections - all at a fraction of the cost of current, less comprehensive manual inspection approaches.

SkyRig is a lightweight, portable yet powerful solution to automate complete well data collection, regardless of vehicle, deploying easily from an inspector’s car or any major unmanned aerial device (UAV), such as a rotor based or fixed wing drone. While performing its automated video inspection, the SkyRig “black box” simultaneously uploads all available well and production onsite data to form a comprehensive daily digest of well inspection data.

Overview of UAV-Based Data Collection System



This detailed inspection data is stored onboard SkyRig, and systematically relayed to SkyRig's SkyHum Cloud Servers for processing. Oil well data is analyzed and displayed to an informative dashboard on any Android or iOS mobile device and forecasted for further trend analysis reporting.

This complete visual and data-based inspection of the well, or WellInform™ file, is automatically analyzed against benchmarks, critical alarm levels, and other reporting parameters. This information is immediately made available to the field engineers and support personnel regardless of their location. Most critically, SkyRig allows for the collection of any and all data from each well site, regardless of whether or not that well is located in an area of cellular or other data network coverage.

SkyRig's ability to bring unparalleled and broad access to such a complete set of well data, brings significant financial benefits. By providing an extensive series of statistical correlative and trend analysis, SkyRig is able to better forecast and prevent well part failure.

The ability to act on this level of sophisticated analysis, on such a complete set of ongoing well data, creates substantial savings by minimizing pump down-time by up to 80%. These additional savings are estimated to be almost \$1.5M annually per 100 wells.

Detailed Operation of Components

Drone Hardware

- Runs Inductive Automation Ignition Software
- Provide MQTT Server for Remote Site to Securely Connect
- Self Discovers Data including Historical information with time stamps
- Stores Data Locally
- No configuration needed for new sites, just add to flight plan and self discovers data

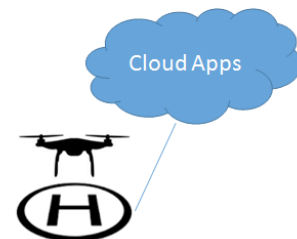


Site Hardware

- Runs Inductive Automation Ignition Edge Software
- Connects to Modbus or Allen Bradley Devices
- Polls for DATA including Pump and Surface Card information
- Time stamps data and stores locally
- Uses MQTT Technology to Securely connect to Drone when in area

Hub Connection

- Securely sends data to cloud applications when connected to Hub
- Connects through Cellular or Satellite communication
- Charges Drone for next trip
- Uses MQTT Technology



In a market that is currently estimated at over \$10B, a highly compelling case is made for the eventual adoption of this patent pending technology by the combination of complete well inspection service, and the ability to generate cost savings of over a million dollars, per 100 wells, annually.

By being able to provide this level of complete daily well data, field operators and engineers are able to make more informed decisions regarding the selection of the appropriate assets to deploy to the well site, and address any problems in the shortest amount of time. In some instances, the engineers could even initiate remedial measures through two-way communication by enabling the UAV to command actions at the problematic well site. This drastically lowers the cost, frequency, and overall need of the labor-intensive process of daily maintenance inspections by well inspectors.

It becomes clear quickly that the SkyRig drone-based data collection service can drastically lower operational cost, and minimize pump down-time through advanced in-the-field data collection and the implementation of predictive analytics on this data to better anticipate part failure and other operational impediments.

It is important to note the SkyRig's drone can already access 83% of all well site data controllers worldwide, with little or no needed changes or additional security access granted at the well site. If the drone is in range, it "sniffs" the data from already existing oil well transmitters.

All this makes the SkyRig drone collection canopy over oil fields an instrumental and cost-effective advantage in well monitoring. But, it is the unparalleled and complete daily digest of all well site data, that makes SkyRig's UAV Canopy an absolute game changer.

Real-Time Contracts with Embedded Machine Learning on Well Data

Already the SkyRig Smart Contract described is a powerful concept that greatly mitigates both market and operational risk for the oil and gas operator or investor. Being able to embed into a smart contract via the blockchain external cost factors is where the market is going. Being able to embed operational performance of a well in real-time to these contracts is unprecedented.

But what if your oil or gas lease would not only tie terms to both external market and well by well operational data, but actually predictively anticipate this data and embed that into the contract or transaction as well?

SkyRig Smart Contracts can do this as well.

Effects of Predictive Analytics on Operational O&G Well Performance

The oil and gas sector produces an enormous amount of data. Activities such as drilling, exploration, maintenance and production all produce valuable information that until recently has been too vast to process effectively. There are an increasing number of powerful big data analytics solutions available to the industry, but oil and gas companies need to make investments now to capitalize on these advances.

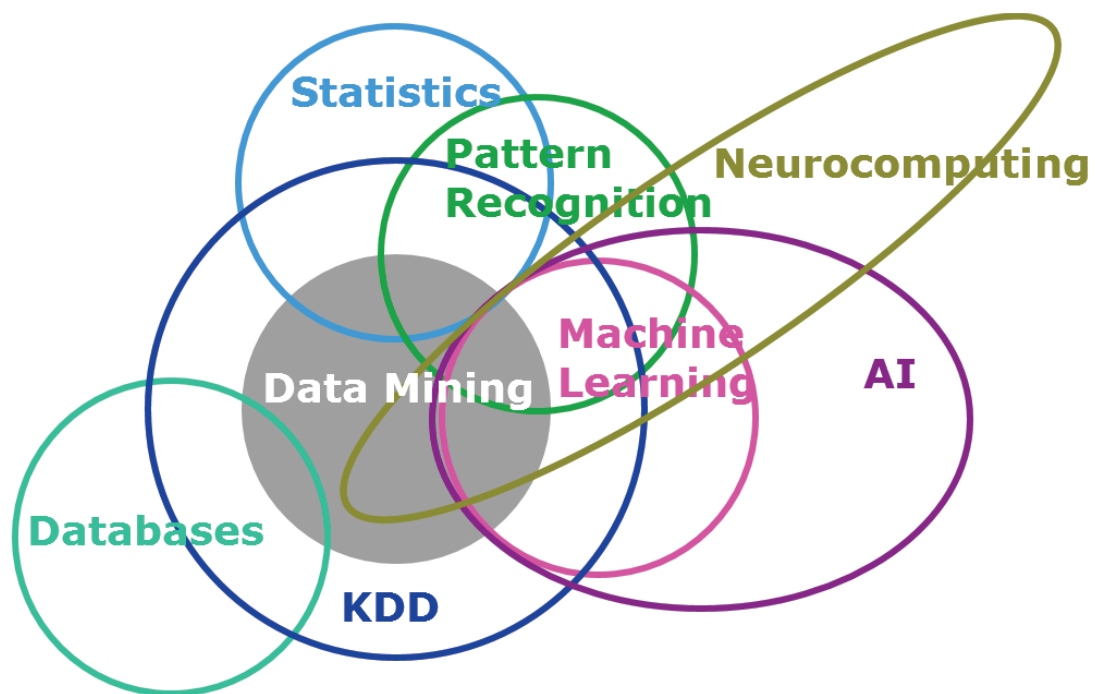
Recent research estimates that if the oil and gas industry could analyze and understand all of the data it produces, operational efficiency could be boosted by as much as 20%. The same research showed that 16% of oil and gas professionals surveyed believed big data and analytics would be the technology to have the biggest impact on the industry this year. Considering the market size involved, these differences are substantial.

The rapid adoption of user-friendly predictive modeling tools takes the huge amounts of data generated and presents it in an easily digestible format to managers, enabling quicker and more efficient decision making. An example would be gathering pressure, volume and temperature data and comparing it to historical databases in order to look for patterns of equipment failure.

Petroleum Economist surveyed global energy services companies and found that predictive analytics had an immediate bottom-line impact in primarily 6 areas:

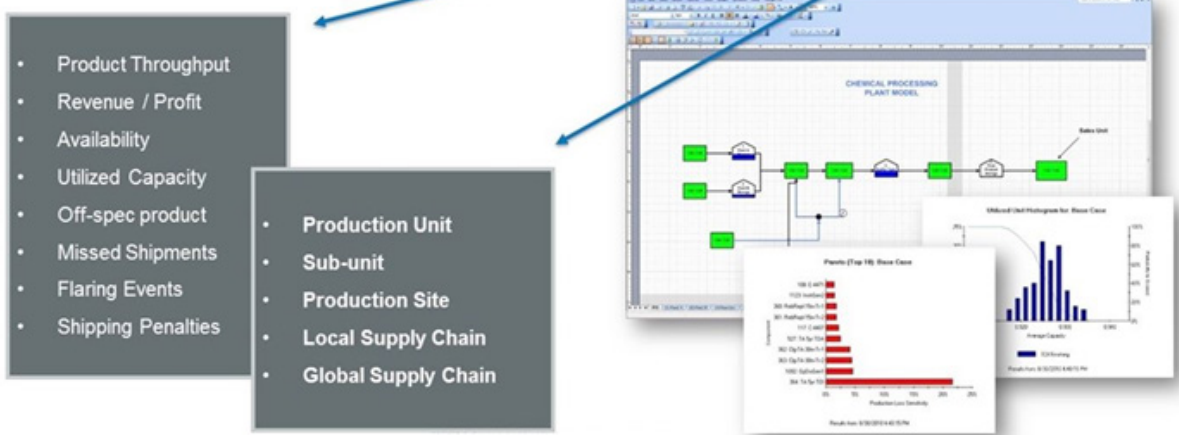
- Analytics Maximize Uptime
- Reduced Maintenance Costs
- Reduced CAPEX construction
- Expanded Remote Operations
- Automated Operations
- Flow Assurance Safety

Besides being embedded as real-time terms into Smart Contracts, SkyRig's cloud-based analytics takes advantage of having constant access to a detailed daily digest of all well operational data by subjecting all the data to an advanced array of predictive analytics and machine learning algorithms.



This not only gives SkyRig clients a deep and advantageous insight into the future operational profitability of an oil or gas well under contract, by embedding these terms tied to AI into the smart contract itself, but it allows the lease holder or investor to embed these future terms and predictions into the actual terms of the oil lease or transaction. Through SkyHum, SkyRig can even make prescriptive recommendations to everything from pump operational parameters, part ordering, to execution of a pump shutdown based upon customized alerts via SkyRig's built-in onboard two-way PLC communication.

- Allows the user to **predict the future performance** of any system and quantify the change in the performance with changes in:



All these issues directly affect the operational profitability of any oil field asset. Any SkyRig client will not only have all this operational knowledge at the asset level, and predict where those values are set to change over time, but be able to embed this into the particulars of the oil contract or lease itself. All of this is possible by tying this advanced data collection and analysis into an oil lease or transaction via embedded smart contracts based on the block chain.

All of this is possible through SkyRig.

SkyRig 1.0 - A Powerful MVP

Minimum viable product (MVP) can mean different things depending on where a company is in their transformation lifecycle and which practices they are employing. Regardless of the nuance, the intent of MVP is the same: reduce risk while increasing return on investment by building only what is necessary. “What is necessary” means the smallest thing that can be built that is meaningful to the user and that tests the assumptions made by the business.

This is another critical area where SkyRig enjoys an enormous advantage in the marketplace. Over the past 3 years, SkyRig has put together core and functional technology in all the core areas needed for such an ambitious complete solution. SkyRig 1.0 already functions on an onboard bolt-on gimbal for any major commercial drone, collecting data from wifi transmissions from PLC controllers at well sites.

Through an active joint venture with Accure Analytics, SkyRig is already housing the data, through AWS servers, and actively performing advanced data analytics and predictive machine learning algorithms for one of the biggest oil and gas holding companies in the world. In fact this company is already an active customer for SkyRig. Below is an active digest of well data read through the SkyRig system.



Finally, not only is SkyRig already able to demonstrate its viable technology in this area, the company has filed patents on these core concepts to protect this advantage in the marketplace.

SkyRig Token Economy

As previously described, SkyRig makes blockchain smart contracts accessible and affordable to more businesses and organizations by providing the necessary platform to properly execute highly complex contracts, payments and transactions in the energy services sector. Most skeptics agree that the Achilles heel of token-based models will be how they are built to interact with the business model that underlies them. It is in addressing this general area that SkyRig truly excels past so many other blockchain concepts.

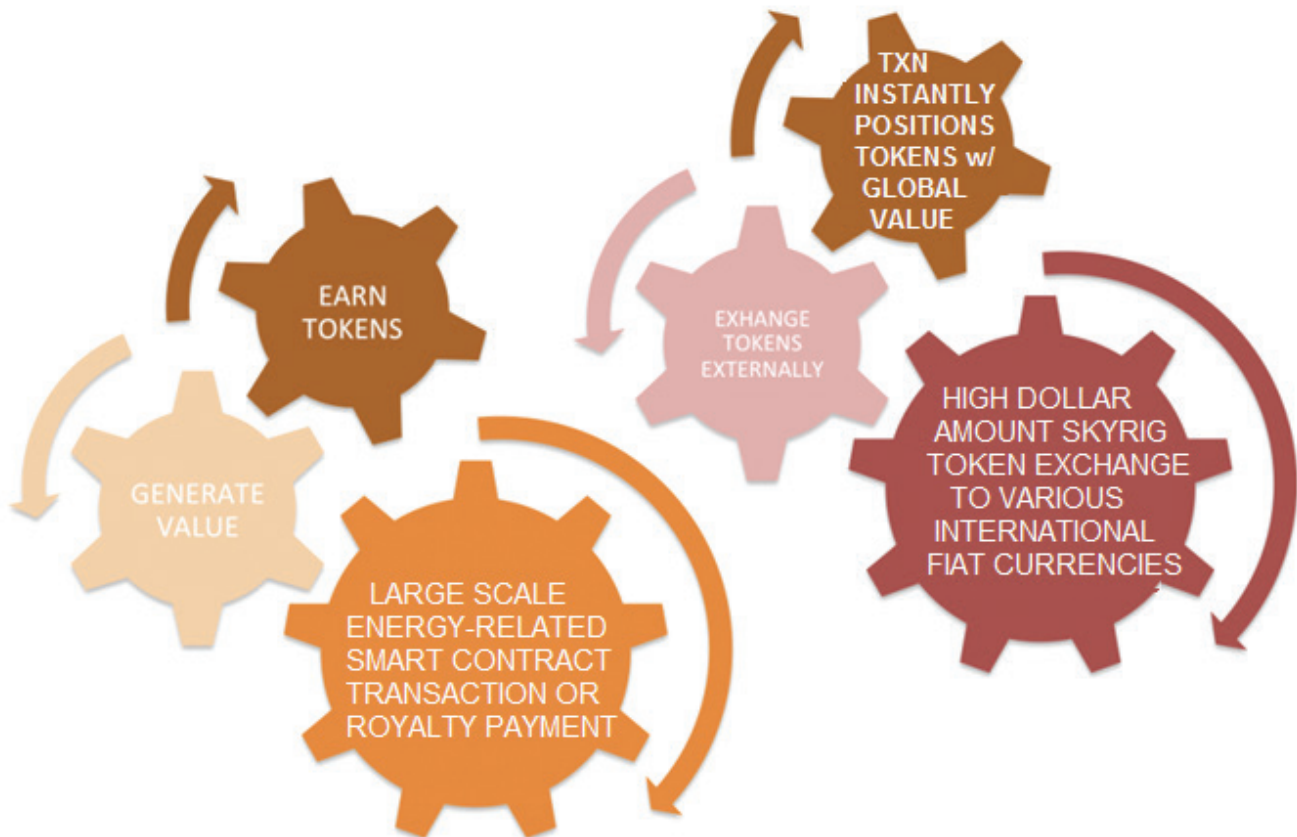
The first component of the SkyRig Token ecosystem is the token itself, which will be used to initially pay and execute smart contracts for products and services within the ecosystem. This implicit role for the SkyRig token imbues it from the very beginning with a rate of exchange and importance rarely seen in a newly launched block chain utility token -- simply because of the scale and frequency of oil and gas market transactions and payments.

With SkyRig, energy clients will easily transfer existing cumbersome royalty payment systems with a much easier, cost-effective, and secure smart contract functionality that SkyRig provides, paying a substantially smaller fee than they currently pay to get their smart contract code ready for deployment.

The last component of the SkyRig ecosystem will be a marketplace called SkyHum that will allow third-party developers to expand this burgeoning ecosystem.

SkyHum will enable developers to sell components such as software libraries, UI add-ons and themes for the SkyRig software solutions.

The Economic Chain of a Blockchain-based Circular Economy Marketplace



The marketplace will provide immutability of its data, ensuring that no central authority, not even SkyRig's creators, can alter the terms or other execution parameters and related tools of the smart contracts, with its immutability also preventing security breaches and other threats currently concerning the online marketplace.

Most experts point to the answer to 5 basic questions as the key in the underlying value of a token ecosystem and its economy.

1. Is the token tied to a product usage, i.e. does it give the user exclusive access to it, or provide interaction rights to the product?
2. Does the token grant a governance action, like voting on a consensus related or other decision-making factor?
3. Does the token enable the user to contribute to a value-adding action for the network or market that is being built?
4. Is the token required to run a smart contract or to fund an oracle? (an oracle is a source of information that other a smart contract can use)
5. Does the token grant the user a value based on sharing or disclosing some data about them (passive work)?

On the first question, the answer regarding SkyRig is arguably its most powerful. The sheer scale of these oil and gas contract payments and transactions, coupled with an open platform that integrates with most of the popular energy services transactional platforms, will by definition create an intense exchange of SkyRig tokens daily, among the biggest companies in the world. Truly, SkyRig is very strong on this first question.

On governance, once again the highly vertical nature and size of the clients involved implicitly governs terms of execution of oil and gas payments and purchases. It takes governance over issues like large scale currency rate exchange within these transactions and payments themselves as they go through SkyRig exchange processes before translating to fiat payments to all parties concerned. This value-added nature of executing on the SkyRig Smart Contract also directly addresses the third and fourth value proposition points.

It is on the fifth and final question where SkyRig truly takes off. By taking their role along the blockchain to validate the transaction of the fiat-based oil and gas transaction, a validator has immediate incentive to be part of this process. With billions in transactions happening in this area every day, the value in passive work rewards is immense and constant. But the profound effect of being part of a multibillion dollar daily transaction network is not the only game-changing impact of the SkyRig token model, the worth denoted in the contracts and transactions executions themselves which equates directly to the operational volume of oil and gas commerce among the partners of these contracts. In a sense the data contained in these transactions is worth almost as much to oil and gas futures and commodities markets than the transaction itself. Each transaction therefore has many levels of value to the parties, the validators, and any users interacting with the data itself. The value of all this would conservatively be measured in the hundreds of billions worldwide.

Potential Impact of SkyRig Tokens in the Oil & Gas Markets

As discussed above, market participants not only buy and sell physical quantities of oil, but also trade contracts for the future delivery of oil and other energy derivatives. One of the roles of futures markets is price discovery and, as such, these markets play an obvious role in influencing oil prices.

Oil market trading activity involves a range of participants with varying motivations, even within individual participants. Some, such as oil producers and airlines, have a significant commercial exposure to changes in the price of oil and petroleum-based fuels, and may seek to hedge their risk by buying and selling energy derivatives. For example, an airline may want to buy futures or options in order to avoid the possibility that its future fuel costs will rise above a certain level, while an oil producer may want to sell futures in order to lock in a price for its future output.

Banks, hedge funds, commodity trading advisors, and other money managers -- who often do not have interests in trading physical oil -- are also active in the market for energy derivatives attempting to profit from changes in prices. In recent years, investors have also shown interest in adding energy and other commodities as alternatives to equity and bond investments to diversify their portfolios or to hedge inflation risks. Every transaction must involve both a buyer and a seller, and the desired “long” buyer and “short” seller positions of those with direct commercial interests in the oil market do not necessarily equal one another. On the one hand banks, hedge funds, and other “non-commercial” investors can add liquidity to futures and derivative markets by taking the other side of transactions with commercial participants. On the other hand, concerns have been raised that non-commercial commodity trading and investment may “use up” liquidity and amplify price movements, particularly at times when momentum is running strongly in a particular direction.

Activity in commodity exchange contracts has risen in recent years. One measure of activity in futures markets is open interest on exchanges, which indicates the number of contracts in a trading session that have not been settled or closed. Open interest on exchange-traded crude oil futures contracts increased substantially over the past decade, as measured by the New York Mercantile Exchange (NYMEX), the main commodities exchange for energy products in the United States.

Both commercial participants (those that have a direct interest in physical oil production, consumption, or trade) and non-commercial investors (money managers and funds that are interested in trading contracts for investment and diversification purposes) have shown increased trading activity. Care must be taken in interpreting this data, however, because the vast majority of positions are held in the less transparent over-the-counter (OTC) market rather than on exchanges.

In addition to futures contracts, another way for market participants to invest in crude oil is through the buying and selling of options contracts. Options allow for investment exposure with limited potential for losses and provide an insurance-like instrument against adverse commodity price movements.

The SkyRig token, simply through use in these smart contract transactions, would quickly become an extremely useful predictive tool for these financial markets in determining futures and derivative markets themselves. Any impact here would be measured in the billions almost immediately.

For all these reasons and more, it becomes clear that a SkyRig token economy would have an outsized and immediate impact and significant worth in the energy services market within the very first days of its launch. SkyRig is truly now poised for a remarkable takeoff.

