



**CNS**

**CNS IS PRIMED  
TO DRIVE YOUR  
BLOCKCHAIN  
PROJECT**

IN THE SAME WAY THAT TODAY'S RAPID TECHNOLOGICAL  
ADVANCES OFFER EARLY-ADOPTING COMPANIES THE  
LEADING EDGE IN MANY ASPECTS OF OPERATIONS, THEY  
ALSO OFFER COMPETITORS THE SAME ADVANTAGES.

IT'S IMPERATIVE TO REMAIN ONE STEP AHEAD.

CHOOSING A TRUSTED PARTNER WITH A FINGER ON THE  
PULSE OF THE DIGITAL UNIVERSE IS THE EDGE YOU NEED TO  
REMAIN COMPETITIVE IN THIS EVER-CHANGING MARKET.

WITH OUR PROVEN CAPABILITIES, INFRASTRUCTURE  
AND SIGHTS SET FIRMLY TO THE FUTURE, CNS IS  
READY TO CARRY YOUR BUSINESS FORWARD.



## ABOUT CNS

Leading with technological and business innovation since 1987, CNS offers integrated solutions in IT and Digital Transformation including banking and payment-solutions services, managed services, IT outsourcing, cloud & cyber-security, and blockchain solutions and services.

With a 250-strong staff contingent comprising more than 120 certified engineers, CNS offers over 30 years' expertise with an in-depth understanding of all ICT requirements across every major industry.

CNS is proud to partner with many of the biggest technology companies in the world, including Oracle, Cisco, Microsoft, and HP Enterprise - to name a few.

On blockchain solutions and services, CNS has also partnered with IBM in order to provide an end-to-end solution for our customer base in the Middle East.





# WHAT IS BLOCKCHAIN?

Simply put, it's a shared, distributed ledger (like a digital record book) that records transactions and tracks assets across a network. It's an immutable system that allows two parties to share and accept offers in an open, trusted environment.

## **BUT, HOW EXACTLY DOES IT WORK?**

It is called a blockchain because it stores data in virtual 'blocks' of encrypted information that are linked together to form a chain. Each block confirms the exact time when a transaction took place and contains a unique 'hash' identifier that links it to the blocks before and after it.

The hash is cryptographically generated and the transactions on a blockchain are immutable because they can be seen by every participant in the chain.

What makes this technology safe for both parties is that only once both sides of any agreement are fulfilled will the transaction effect and close – the record of which will be impossible to change without everyone in the chain knowing about it.

Payments can be sent directly from one party to another and are logged in an encrypted, but publicly available distributed ledger so that the same money cannot be spent twice or counterfeited.

What's more, details of the transaction are kept in multiple locations, so there's no chance of it getting lost, deleted, or corrupted – ever.

**Blockchain will bring to transactions what the Internet did for information.**



## WHY BLOCKCHAIN?

With exponentially increased trust and efficiency in the recorded exchange of almost anything, blockchain will profoundly change how the world trades.

TRADITIONAL	BLOCKCHAIN
<ul style="list-style-type: none"><li>Participants keep their own ledgers to record transactions and track assets, which can be expensive and inefficient when involving intermediaries that charge fees and cause delays in executing agreements, especially when maintaining duplicated ledgers.</li><li>Using a central system like a bank to facilitate the exchange runs the risk of being vulnerable to fraud, cyber-attack, or a simple mistake, in which case the entire business network is affected.</li></ul>	<ul style="list-style-type: none"><li>Blockchain is a shared, indisputable ledger that facilitates the process of recording transactions and tracking assets.</li><li>An asset can be tangible (a house, a car, cash, land) or intangible (intellectual property, patents, copyrights, branding).</li><li>Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved.</li></ul>

### A BLOCKCHAIN NETWORK HAS THE FOLLOWING KEY CHARACTERISTICS:

**CONSENSUS:** For a transaction to be valid, all participants must agree on its validity.

**IMMUTABILITY:** No-one can tamper with a transaction after it has been recorded to the ledger. The only way a transaction can be reversed is with a new transaction to reverse the original, and both transactions will be visible.

**PROVENANCE:** Participants know where the asset comes from and can trace its ownership over time.

**FINALITY:** A single, shared ledger provides one place to go to determine the ownership of an asset or the completion of a transaction.



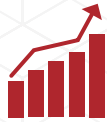
## A COMPLETE END-TO-END BLOCKCHAIN SOLUTION

- The architecture, design, and setup of a private cloud on-premises including hardware, software, and middleware for easy management and running of virtual machines and services.
- The architecture, design, and setup of a private, permissioned blockchain solution with peers, channels, participants, assets, transactions, and events handling.
- Network management with a Service Level Agreement (SLA) and constant monitoring with middleware available for easy updates and analysis for your assurance of the resilience, security, and performance on the network.
- Secured access to the network and implemented network-governance on the blockchain.
- End-to-end web-application architecture, design and identify use-case, ROI, and TCO.
- Source code available for the customer as intellectual property.
- Bespoke customized Web and Mobile applications built to meet specific customer needs based on use-cases previously identified.
- Continuous support, maintenance, and upgrades of the private cloud, the blockchain network, web, and mobile applications as more and more participants get on-board the network.
- A pool of expert engineers available to build smart-contracts (an immutable, cost-effective contract system), chaincode, analysis, automation, artificial intelligence, and more on top of the network.
- Consulting services based on specific requirements and scope of work.
- Project management and upgrades of your existing network.
- Migration to a cloud-architecture, either private or with AWS Amazon, Microsoft Azure, or IBM cloud legacy-networks.



# BY 2025, BLOCKCHAIN WILL HAVE BEEN INTEGRATED INTO EVERY WAY OF LIFE

Blockchain technology offers an ability to increase productivity, ensure transparency, and reduce wasted time and paperwork. Blockchain's business value can be measured in three categories:



## REVENUE CREATION

Paving the way for new business models and ways to generate revenue.



## COST REDUCTION

Streamlining supply chains, cutting out processes that slow efficiency.



## CONSUMER IMPACT

The opportunity to meet previously overlooking needs in communities.

### REAL ESTATE

- Transparency within agreements
- Verify property information, update and decentralize records
- Reduce paperwork, digitize transactional processes
- Record, track, transfer land titles

REVENUE | COST | CONSUMER

### BANKING, FINANCIAL, FIN-TECH

- Streamlined payments processing with efficient, quick, and secure transactions
- Enabling global transactions with borderless currencies
- Minimize auditing complexity for any financial ledger

REVENUE | COST | CONSUMER

### TRAVEL

- Passenger Identification, boarding, passport, payment, and documentation digitized and verified
- Loyalty program transparency and tracking

REVENUE | COST | CONSUMER

### HUMAN RESOURCES

- Background checks e.g. verification of identity, employment history
- Payment and benefits process validation—smart contracts

REVENUE | COST | CONSUMER

### PUBLIC TRANSPORTATION/RIDE SHARING

- Streamlined public transportation
- Provide more accurate payment for ride, gas, and wear & tear

REVENUE | COST | CONSUMER

### INSURANCE

- Improve multi-party contracts
- Streamline risk-contract efficiency
- Streamline claims adjudication
- Reduce disputes with transparency of shared data

REVENUE | COST | CONSUMER

### GOVERNMENT AND VOTING

- Reduce voter fraud with audit trails
- Minimized government fraud through transparent digitized processes
- Increase accountability and compliance for government officials
- Identity validation; integrity of citizen registry data

REVENUE | COST | CONSUMER

### LAW ENFORCEMENT

- The integrity of evidence, resistance to falsification of case data
- Documentation of time-stamped, chronological chain of facts

REVENUE | COST | CONSUMER

### MEDICAL / HEALTHCARE

- Drug Supply Chain integrity
- Patient databases/indexes
- Claims Adjudication
- Medical Supply Chain management
- Transparency and automation within the patient-to-hospital or patient-to-doctor transactions
- Clinical trial provenance—integrity with an auditable trail of data exchange
- Efficiency, privacy, and ownership of patient health data

REVENUE | COST | CONSUMER



[WWW.CNS-ME.COM](http://WWW.CNS-ME.COM)

#### **ABU DHABI**

Shaheen Tower,  
Al Salam Street  
Abu Dhabi, UAE  
P.O. Box 46144  
Tel: +971 2 644 2888

#### **DUBAI**

2nd Floor, Makeen Building  
Airport Road, Dubai  
United Arab Emirates  
P.O. Box 52137  
Tel: +971 4 238 4400

#### **MUSCAT**

Suite # 0402 - Z210, 2nd Floor,  
Building 4, Knowledge Oasis,  
Muscat, Sultanate of Oman  
P.O. Box 50, PC 135 Rusayil  
Tel: +968 2417 0188

#### **KUWAIT**

Sharq, Ahmad Al Jaber Street  
Dar Al Awadi, 2nd Floor  
Office No. 5405 , Safat 13160  
Kuwait, P.O. Box: 29927  
Tel: +965 2232 2999