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## EDITORIAL

Technologies, especially transformative one, should enhance the quality of life and subserve the human needs in this new age economy. Law as an instrument of socio-economic transformation must regulate the application of technologies for human good. As rightly said by *Don and Alex Tabscott* in their classic book *BLOCKCHAIN REVOLUTION*[Penguin U.K., 2018 pg 308], 'As we enter this second generation of the Internet[Blockchain], it is the time for the manifesto for the Digital Age – Call it a Declaration of Interdependence.. Blockchain technology may reduce the cost and size of Government, but still needs new Laws in many areas.

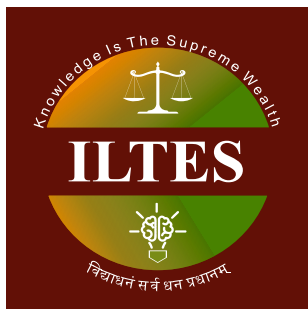
**ILTES International Conference on Blockchain, Cryptocurrency & Digital Assets: Regulatory Framework** is a pioneering opportunity for assemblage of global and national experts on common platform. During two days – September 29-30, 2018 at Hyderabad. Experts and entrepreneurs from domains of Blockchain Cryptocurrencies and Digital Assets, Legal Profession, Policy and Law makers, Bankers, Financial Experts , ICOs Crypto Exchanges, Academic Leaders, Blockchain evangelists and enthusiasts will participate. Brainstorming sessions and cross fertilization of ideas will facilitate on drafting of a consensus based report to be shared with all stakeholders, policy and law makers.

### Team Conference heartily welcome all.

Gratitude is memory of heart. Team ILTES wishes to express gratitude to all guests, speakers, delegates and especially our Lead Sponsor, Co-Sponsors, Technology Partner, Knowledge Partners and Media Partners. Their contribution and support has profoundly helped us in organizing this International Conference. We promise a purposeful and gratifying experience to all stakeholders who are joining us for this mission oriented venture.

Prof. Dr. M.K. Bhandari  
Chief Editor & CEO - ILTES

TM



*Welcome To*

## International Conference on Blockchain, Cryptocurrency and Digital Assets: Regulatory Framework

September 29-30, 2018

Oakwood Residence - Kapil Tower, Financial District - Gachibowli  
Hyderabad, India

### CONFERENCE SCHEDULE

#### DAY 1 - Saturday, SEP. 29, 2018

REGISTRATION: 8.15 - 9.30AM  
INAUGURAL CEREMONY: 9.45 - 11.15AM  
TEA BREAK: 11.15 - 11.30AM  
TRACK 1: 11.30AM - 1.30PM  
LUNCH & NETWORKING: 1.30 - 2.30PM  
TRACK 2: 2.30 - 4.00PM  
TEA BREAK : 4.00 - 4.15PM  
PANEL DISCUSSION: 4.15 - 5.30PM

#### DAY 2 - SUNDAY, SEP. 30, 2018

TRACK 3: 9.30 - 11.00AM  
TEA BREAK: 11.00 - 11.15AM  
PANEL/OPEN DISCUSSION  
11.15AM - 12.15PM  
CLOSING CEREMONY : 12.15 - 1.30PM  
LUNCH: 1.30PM

### CONGRATULATIONS TO WINNERS OF ILTES

#### FIRST EVER – NATIONAL ESSAY COMPETITION ON

#### BLOCKCHAIN AND CRYPTOCURRENCIES: GLOBAL AND NATIONAL PERSPECTIVES.

##### First Prize



Astha Tarwani, 2nd Yr, LL.B, (TDC)  
Symbiosis Law School, Pune

##### Second Prize



Aryan Babele, Semester VI, BA, LL.B,  
Rajiv Gandhi National University of Law – RGNUL – Patiyala

##### Consolation Prize

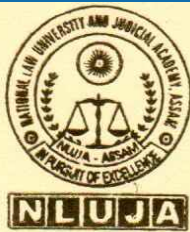


Karan Vijay – Semester V, B.A. LLB  
National Law University – Delhi

##### Consolation Prize



Anouskha Singh, II Semester, B.A. LL.B  
Maharashtra National Law University, Mumbai



# National Law University and Judicial Academy, Assam

(Established by an Act No. XXV of 2009)

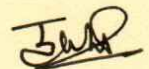
**Prof. (Dr.) J. S. Patil**  
Vice-Chancellor



## MESSAGE

Twenty first century is viewed as knowledge era that has brought about revolutionary changes in the knowledge domain due to development of technology on exponential scale. New scales to which the information and communication technology has climbed is responsible for large scale development in many sectors as also throwing challenges that were not even visualized in earlier times. Every civilized society is engaged in meeting these challenges by creating necessary legal framework. There is going to be paradigm shift in jurisprudential thinking and conceptual framework of law as a consequence of changes taking place in human relations and activities in the face of rapid technological developments. The role of legal educational institutions and research institutions is noteworthy in providing solutions to the problems arising out of these developments.

Infinity Law-Tech Educational Services, LLP - India (ILTES) established by a renowned legal scholar Dr. M. K. Bhandari is one such institution that is engaged in study and research activities in the cutting edge areas of technology such as Block-Chain Technology and Artificial Intelligence by collaborating with eminent legal education institutions, holding international conferences and conducting courses. National Law University and Judicial Academy Assam, Guwahati is pleased to be a knowledge partner with ILTES in taking forward the study and research activities in this very important domain of legality. The Newsletter "ILTES – NEWS & VIEWS" published by ILTES is an important document providing information about important research activities in the law relating to new and emerging technologies. The Newsletter deserves a place in the law libraries of eminence and needs to be encouraged by all legal scholars. I wish ILTES and the Editorial Board of the Newsletter great success in their resolve to contribute their might in developing robust legal framework for the new regime of technological developments.

  
J. S. Patil

# APPLICATIONS/USE CASES OF BLOCKCHAIN IN INDUSTRY



**PHANI AREGA**  
**Senior Vice President, Engineering**  
**Zebi Data**

Blockchain is a distributed ledger technology that decentralizes maintenance and preservation of digital ledger across multiple nodes. Each node in blockchain contains entire data as well as the entire software that operates on the data (aka Smart Contracts). Data once written onto blockchain, cannot be updated or deleted; behavior of software installed on blockchain cannot be manipulated. Further data additions should be approved by consensus across majority of the nodes ensuring that only valid data additions take place.

**Blockchain gives following benefits:**

- i) Trust: Even across parties without mutual trust, blockchain ensures complete and unbiased implementation of a transaction. This eliminates need for a trusted central 3rd party escrow for transactions between such parties, in turn reducing operational costs and turnaround times.
- ii) Data Immutability: Non-blockchain systems, however well equipped with security measures, remain vulnerable to data tampering by malicious insiders (software system/database administrators) or by hackers. Data on blockchain is tamper-safe even from malicious insiders and hackers.
- iii) Single point of failure vulnerability: Centralized software systems end up being non-functional when the component(s) involved in the centralized flow are brought down by hackers or otherwise. Given the decentralization, this vulnerability is plugged in blockchain systems. Even if one blockchain node is down, another node can provide the service without any limitations.

This article covers blockchain use cases Banking, Financial Sector and Insurance(BFSI), Supply Chain and Pharma industries. Rest will be covered in subsequent article(s) in the series.

In BFSI, blockchain usage is being explored for cross border payments processing, shares and securities trading, Identity Management for 'Know your Customer'(KYC), Anti money laundering (AML) compliance and data tampering prevention. At present cross border money transfer involves processing by multiple intermediary banks resulting in transaction lead times of several days and tangible transaction fee. When approved by regulators and adopted, blockchain speeds up cross border payments drastically and also reduces the transaction fee. Share trading at present involves many middlemen, such as brokers and the stock exchange itself. Blockchain usage here is speeds up the settlement process and cuts down the middlemen. KYC, AML compliance involves customer providing id documents to service provider and tedious verification steps by the service providers. Entire exercise is to be repeated with each BFSI service provider used by that customer individual. Besides increasing the lead time, this also poses risk to privacy of the customer. When identity management is done with blockchain, customer will have to do the above exercise only once and can control which other service providers get access to that information.

In 2015, 9 BFSI companies namely Barclays, BBVA, Commonwealth Bank of Australia, Credit Suisse, Goldman Sachs, J.P. Morgan, Royal Bank of Scotland, State Street and UBS formed a consortium to explore usages of blockchain technologies. In India, State Bank of India, ICICI Bank, DCB Bank, Kotak Mahindra Bank, Federal Bank, Deutsche Bank and UAE Exchange are members of 'Bank chain' formed in 2017.

Use cases of Subrogation, Provenance, Claims' management exist for Insurance industry. IBM and AIG completed a pilot program where a multinational policy can be prepared by a smart contract.

Implementation of claims processing by smart contracts gives confidence of fair and unbiased claim settlement to the customer.

Blockchain holds great prospects for Marine insurance that has a notoriously complex premium-setting process. For marine insurance, a platform called Insurwave was built and is put into production by EY, Guardtime, A.P. Møller-Maersk, Microsoft, Willis Towers Watson, XL Catlin, MS Amlin and ACORD. Per Gartner's study BFSI sector dominated the blockchain market with more than 60% share in the revenue in 2017.

In Supply Chain domain, blockchain can be leveraged for transparency and provenance. Transparency also improves efficiency of supply chain and provenance thwarts counterfeiting. Blockchain technology enables companies to trace contaminated food product to its source quickly and ensure safe removal from store shelves and restaurants, according to IBM.

**Following are some examples:**

De Beers is a big diamond producer that uses blockchain to track diamonds movement on supply chain and to verify diamonds. Walmart is using blockchain to track pork imports from China. Pacific Tuna project tracks Tuna from ocean to market in Pacific Islands' tuna industry. In 2017 usage of Hyperledger Sawtooth (a blockchain platform) to track sea food all thru its supply chain was demonstrated. Tracking devices are attached to each fish as soon as it is caught, and consignment is tracked at each stage of the supply chain from farm to fork.

Usage of blockchain along with Internet of Things (IOT) holds promise of revolutionary improvements in

**Manufacturing and Supply Chain industry.**

In Pharmaceutical industry, blockchain provides traceability of what active pharmaceutical ingredients got in during actual manufacture of a certain batch of medicines. In US, the Drug Supply Chain Security Act (DSCSA), outlines steps to build an electronic, interoperable system to identify and trace certain prescription drugs as they are distributed in the United States. This will enhance FDA's ability to help protect consumers from exposure to drugs that may be counterfeit, stolen, contaminated, or otherwise harmful. The system will also improve detection and removal of potentially dangerous drugs from the drug supply chain to protect U.S. consumers. In 2017 Pharma companies Genentech (Roche Group), Pfizer, AmerisourceBergen, and McKesson Corporation formed working group for 'Mediledger' project to build a blockchain to enable Pharma companies to be compliant with DSCSA.

Across all above use cases, the individual customer benefits in 2 ways: reduced turnaround times and reduced transaction costs. Organizations/Businesses would also experience the same. However, businesses that have been playing role of trusted intermediary may end up being shut down.

It is about a decade since blockchain was invented, but blockchain awareness has not spread out adequately. Organizations like **Infinity Law- Tech Educational Services (ILTES) are doing their bit and contributing to this cause.**

# Blockchain Digital Transformation



**Cyber Security**  
Protection against DDoS attack, Ledger system prevents hacking.



**Internet of Things**  
Implementing IoT system within industries, IoT applications for transactions.



**Cloud Storage**  
Extra security with decentralized network, low transaction costs, unused space.



**Advertising**  
Low cost advertising and marketing, no intermediaries.



**Gaming**  
Decentralized gaming platforms, enable players to trade in-game items.



**Police/Law**  
Preservation of evidence, no falsification data, time stamps, chain of facts.



**Business Transportation**  
Access to trip data and tracking the path.



**Power Management**  
Low cost energy, peer to peer energy transfers, utility metering.



**Artificial Intelligence**  
Improving implementation, automating and securing AI tech.

Media



**Gun Safety**  
Tracking criminal IDs and preserving ownership of gun possession.



**Automotive**  
Tracking vehicles, supply chain management, Production and sales history.

Technology

Law and Crime



**Entertainment Industry**  
Ownership rights, preserving copyright, smart contract system for artist compensation.



**Public Transportation**  
Accurate payments, ride sharing, streamlining rides.

Entertainment

Blockchain Transformation

Transportation



**Music Industry**  
No illegal downloads, proper channel for artists compensation.



**Government**  
Transparent voting system, minimization of fraud, Citizen rights.



**Inheritances**  
Validity of wills and smart contract system to ensure inheritance.



**Traveling**  
Travel information, passport boarding information, passenger identification.

Contracts

Governmental Services



**Property or Land**  
Property information, transparency in payment, ownership changes.



**Finance**  
Higher efficiency and security in banking system and money transactions.

Finance

Human Rights and Contributions



**Healthcare**  
Patient database management, Drug supply chain management, Medical fee transactions, privacy.

Contributions

Maintaining donation integrity, Ensuring safe fund raising channels.



**Legal Contracts**  
Preserving legal documentation and contracts. Smart contract defines the rules of the contracts.



**Financial Protection**  
Insurance agreement preservation, validating the agreement and transaction processes.



**Banking Interface**  
More accuracy, better interface, security in transactions.



**Right to Information**  
Identity verification, history of employees, payment process.



**Voluntary Organization**  
Tracking all donations and ensuring the integrity. Reduces the complexity of the process.



**Education**  
Proper educational channel, Digitization, academic information.



***Pavani Kadiyala***

President Government Blockchain Association (GBA)Hyderabad Chapter,  
CMO (PIPRA Solutions Pvt Ltd)

The Government Blockchain Association (GBA) is an International Professional Association and a US-based non-profit, membership organization that consists of individuals and organizations that are interested in promoting blockchain related solutions to government requirements.

GBA creates relationships that would otherwise not come about – between and among technologists, public policy makers, application specialists and those who simply need to understand the new and emerging digital currencies that will change the world.

The core value of a blockchain is that it enables a database to be directly shared without a central administrator. Rather than having some centralized application logic, blockchain transactions have their own proof of validity and authorization to enforce the constraints. Hence, with the blockchain acting as a consensus mechanism to ensure the nodes stay in sync, transactions can be verified and processed independently.

Some of the advantages are:

Empowered Users

High Quality Data

Durability, reliability

Process Integrity

Transparency and immutability

Ecosystem simplification

Faster Transactions and lower transaction cost.

In this regards ILTES, I have found it as one of the best experiences of learning and sharing Knowledge towards various latest technologies implementations and suggestions towards blockchain under various laws, policies, and procedures. Professor M.K. Bhandari's passion and commitment is emulating.

He has a wonderful experience from the several International Blockchain Conferences and also conducting workshops in various prestigious corporate and educational institutions. I would like to thank ILTES team and Professor M.K. Bhandari for giving me this opportunity to introduce the GBA Hyderabad chapter and also best wishes to get success in running ILTES



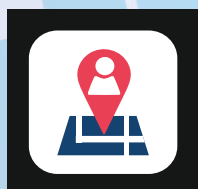
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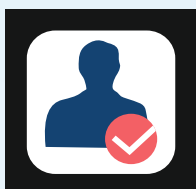
[www.nmccx.com](http://www.nmccx.com)

Traders, PCMs and TMs Under The Same Roof



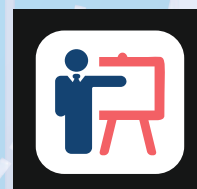
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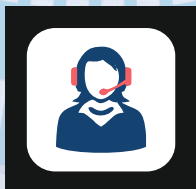
**Trained  
NMCCX TMs**

NMCCX TMs are specifically trained for trading on NMCCX platform.



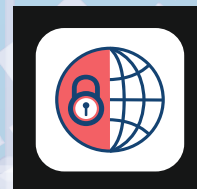
**Hassle-Free  
Transaction**

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**Intense  
Security**

Your digital assets are extremely secure on our trading platform built on blockchain technology.



## COO's Message For Blockchain Conference Magazine, September 2018



**J. B. Ram**  
COO, NMCCX

The most powerful tool that NMCCX has is its dependable structure. It follows the traditional Professional Clearing Member-Trading Member-Client model, which has been the set system in the conventional stock and commodity market. The system has passed the test of time over many decades. Now, it's time to use the same for the cryptocurrency market.

The biggest challenge in the present cryptocurrency market in India is liquidity. While there are a number of so-called cryptocurrency exchanges in the country, the market tends to be shallow when it comes to liquidity. Many of the crypto-investors are clueless about what to do with the digital currency in their wallet, because of the institutional illiquidity in the ongoing market. That is exactly where NMCCX comes in with its unique design to ensure liquidity in the cryptocurrency market.

First of all, NMCCX plans to make participants confident about crypto trading and the intricacies associated with it. That is only possible when people are more knowledgeable about it. The majority of the insecurity sneaks in due to the fear of the unknown. We have a strong team of trainers who constantly enlighten people about all the aspects of the cryptocurrency market. The more people are aware of it, the more people start taking an active part in the trading process.

Traders will be free to buy, sell and hold crypto coins at their own convenience. Unlike other existing crypto-trading platforms in the country, we'll keep the transaction window open at all time to help traders control liquidity on their own. NMCCX plans to ensure this by providing the neutral trading platform round the clock having the ease of initiating the trades at the choice of market participants, while NMCCX would engage itself in market-wide risk management. Trading is not a one-way ticket, and we want to make sure that traders have the last say when it comes to controlling their assets.

NMCCX also comes up with a plan to reduce systemic risk. Its neutral anonymous trading structure having accent on strong risk management would protect the market from financial meltdown. Systemic risks are responsible for traders taking excessive risks and eventually facing asset value crash.

We, at NMCCX, believe that the government has to come up with due regulations for the cryptocurrency market. An appropriate regulatory mandate would go a long way in enabling NMCCX impart proper investor protection in this emerging market segment. We hope that the crypto market is regularised soon in India, so that the investors have the opportunity to invest in all types of financial instruments with varying risk-reward matrix.

**ILTES International Conference on Blockchain, Cryptocurrency and Digital Assets: Regulatory Framework** at Hyderabad on 29-30 September 2018 is a great opportunity to unite under common platform and develop an eco-system in Blockchain & Crypto regulatory space.

Team **NMCCX** is feeling proud to be the lead sponsor for this great event

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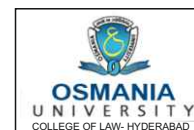
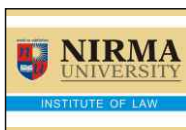
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