**SAUDI** LAW CONFERENCE
المؤتمر السعودي للقانون

UNDER THE THEME OF: **REINFORCING A SUSTAINABLE AND INCLUSIVE BUSINESS ENVIRONMENT**

# Ethereum - As Opposed to Coins

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# About Speaker

## Taha Sajid -PMP®,PMI-ACP®

- **Technology Expert** – Huawei Technology
- **Chief Technical Consultant**– Trustti, ASTC
- **Director-Blockchain Solutions** – Prudential Advisory, PAK
- **Certified Blockchain/Agile/Fintech/5G Trainer**
- **Keynote Speaker –** Blockchain/Fintech Summits

Helped a no of companies to generate million dollar funding, built successful business models and Solution Architecting for Blockchain/Fintech Projects

# Workshop Contents

## Objectives

Principle of Smart Contract

Understanding Ethereum

Dapps and Architecture

Tokenization in Blockchain

Qualification of Usecase

Value preposition and Usecase for Legal Industry
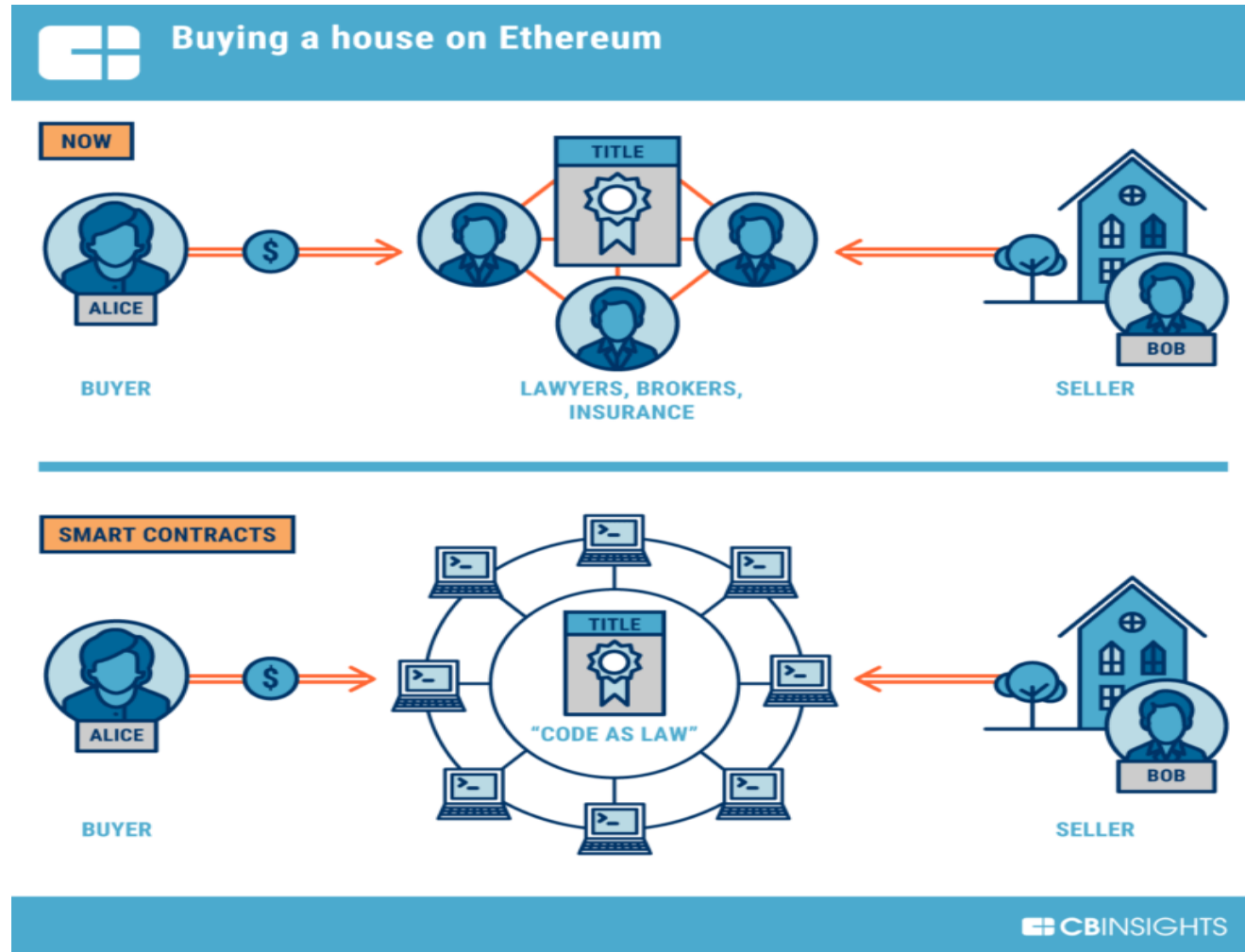
Use case Demo – Real Estate Transaction

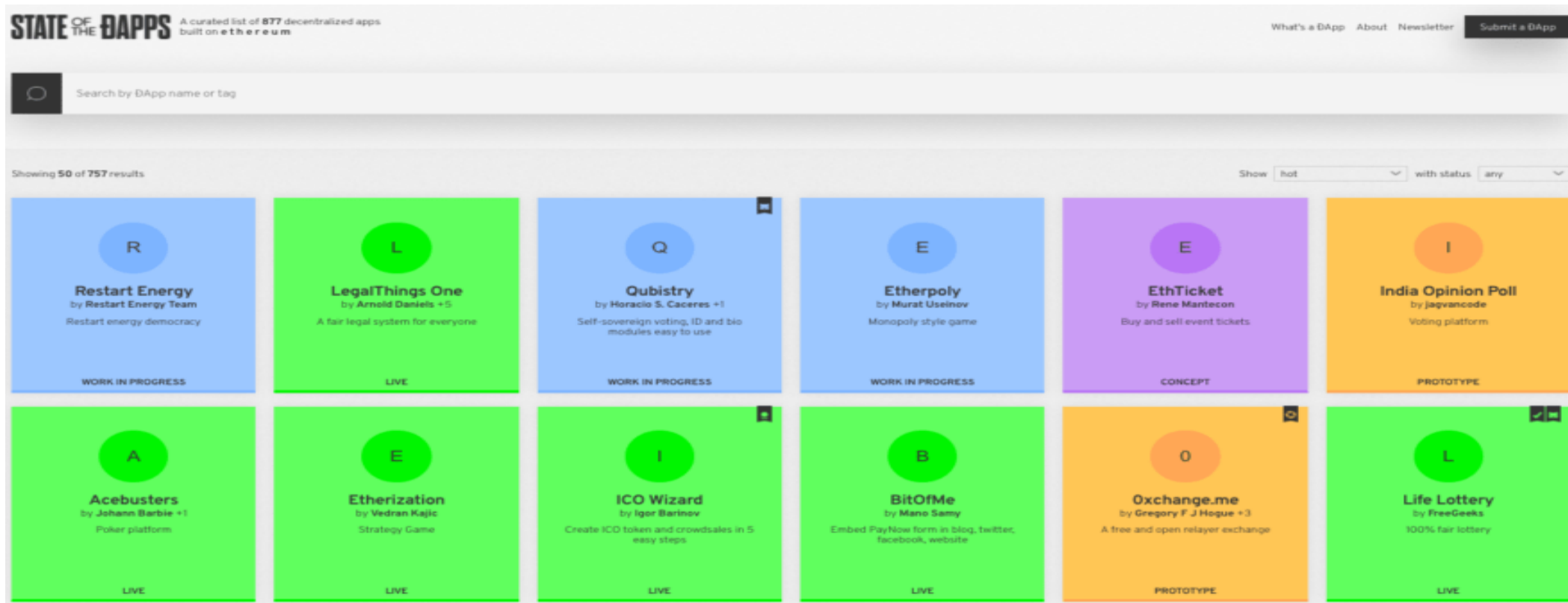Legal Considerations and Recommendations

# Principle of Smart Contract

*"IF This Than That"*

- **Turing Complete**

- **EVM**

- **Consensus Mechanism**

- **GAS**

- **IPFS**



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# So What is Ethereum ?

- A Platform where DaPP can be built using Smart Contract – removing 3$^{rd}$ Party.
- The cost of running the DaPP – ETHER (Gas Fees)

*A sample of decentralized applications being built on top of Ethereum*

# Engaging with DaPPs

- **Essentials**

Browsers, wallets, and must-have utilities- METAMASK, uPort.

- **Platforms and Markets**

Buy and Sell goods – Augur, Ujo, RentBerry
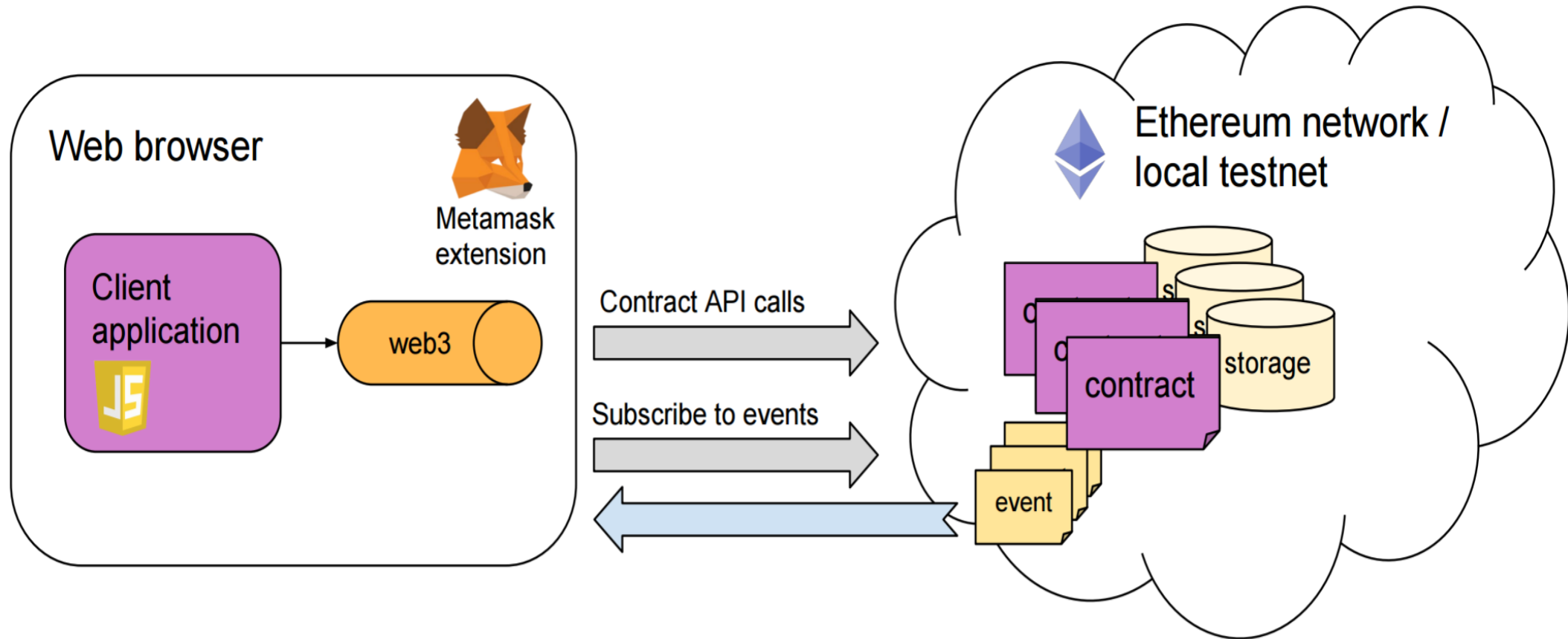
- **Decentralized Finance and Health**

Web3 world – BlockFi, Marble, Ethheal

- **Work**

Do stuff, get paid – GitCoin, OpenLaw.

# Ethereum Architecture



*A sample of decentralized applications being built on top of Ethereum*

# Tokenization in Blockchain

**Type of Token**

- Currency Token
- Investment Token
- Utility Token

**Why do we need Token**

**Creation of Token →**

```
contract MyToken {
    /* This creates an array with all balances */
    mapping (address => uint256) public balanceOf;

    /* Initializes contract with initial supply tokens to the creator of the contract */
    function MyToken(
        uint256 initialSupply
        ) {
        balanceOf[msg.sender] = initialSupply;              // Give the creator all initial tokens
    }


    /* Send coins */
    function transfer(address _to, uint256 _value) {
        if (balanceOf[msg.sender] < _value) throw;          // Check if the sender has enough
        if (balanceOf[_to] + _value < balanceOf[_to]) throw; // Check for overflows
        balanceOf[msg.sender] -= _value;                    // Subtract from the sender
        balanceOf[_to] += _value;                           // Add the same to the recipient
    }
}
```

*A sample of decentralized applications being built on top of Ethereum*

# Ethereum Standards for Tokens

- **Fungible Tokens**
  **ERC-20 / ERC-223/ERC-777**
  **(Crowd Funding- ICO/STO)**

- **Non-Fungible Tokens**
  **ERC-721**
  **(Digital Assets-Crypto Kitties)**

## How an Initial Coin Offering Sale Works

1. Send ETH

2. Receive ICO Token

1. Send ETH

2. Receive ICO Token

1. Send ETH

2. Receive ICO Token

Ethereum Crowd Sale Contract

# Security Token and STO



THE HOWEY TEST

- Investment of Money
- Common Enterprise
- SECURITY
- Expectation of Profits
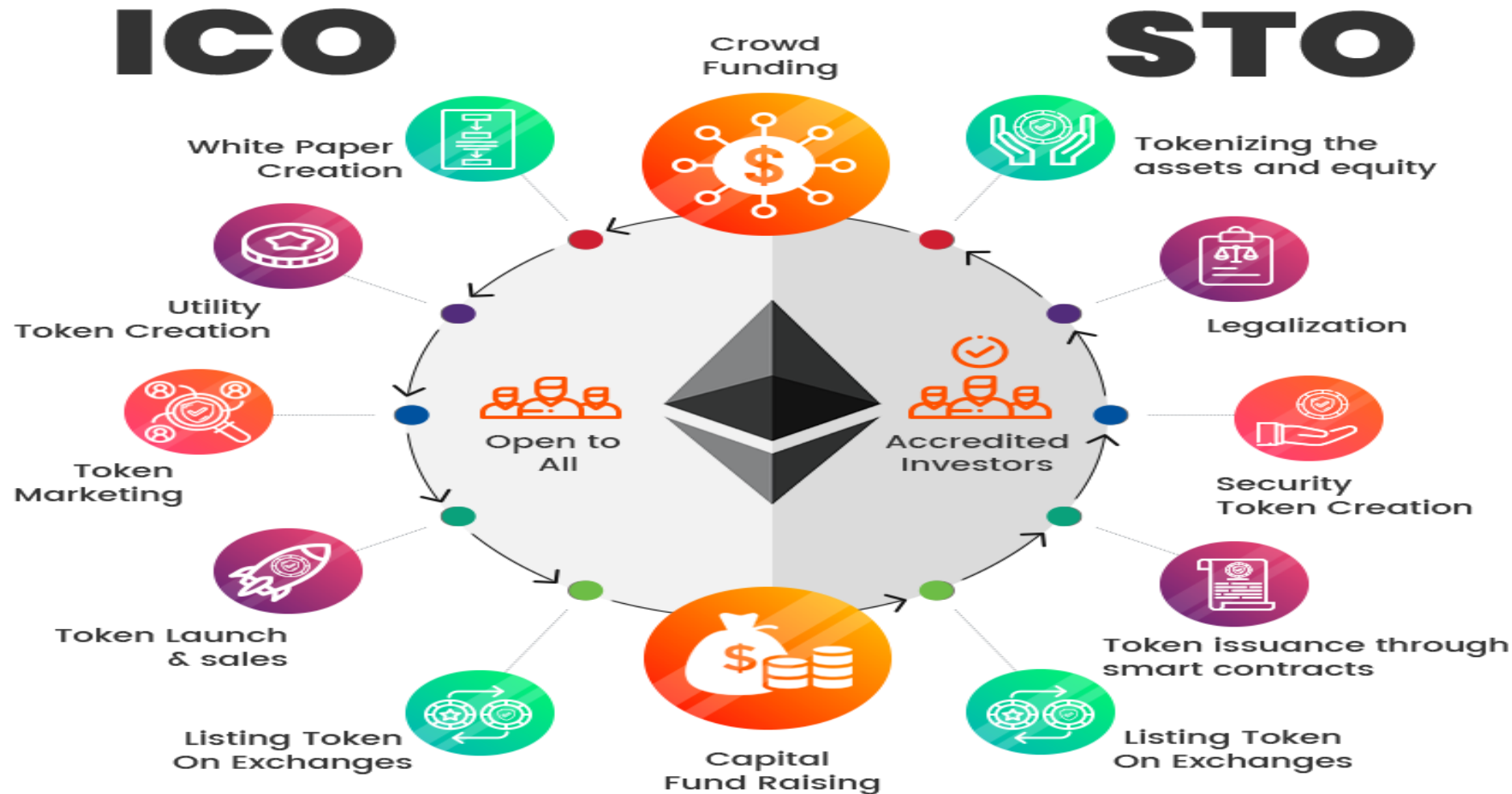- Derived from the Efforts of Others

- Passes Howey Test
- Subjected to security regulations D, A+ and S
- Brings Back credibility to ICO

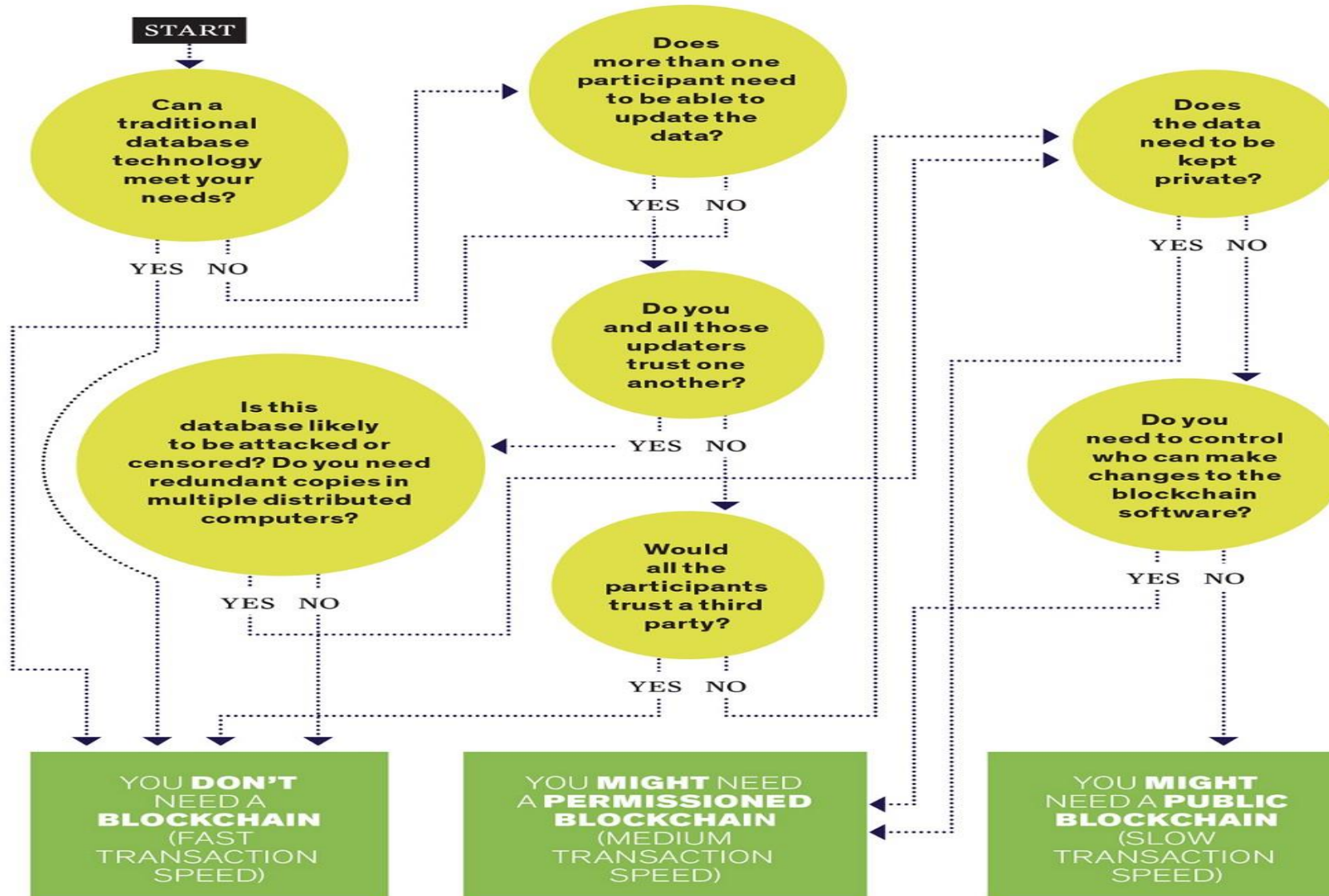***ERC 1400/ST-20 - Security Token Standard***

# Bridging the Line

# Qualification of Use case for Ethereum

# Value Preposition for Legal Industry

I. The legal sector more accessible and transparent

II. Reduce costs in the legal industry

III. Bring automation to the legal industry

IV. Legal industry more efficient – Removing Duplications

V. Data integrity and transparency to the legal industry

# Ethereum Use cases for Legal Industry

- Electronic Signatures
- Intellectual Property
- Property Rights
- Chain of Custody
- Tokenization
- Automated Regulatory Compliance
- Machine to Machine Payments
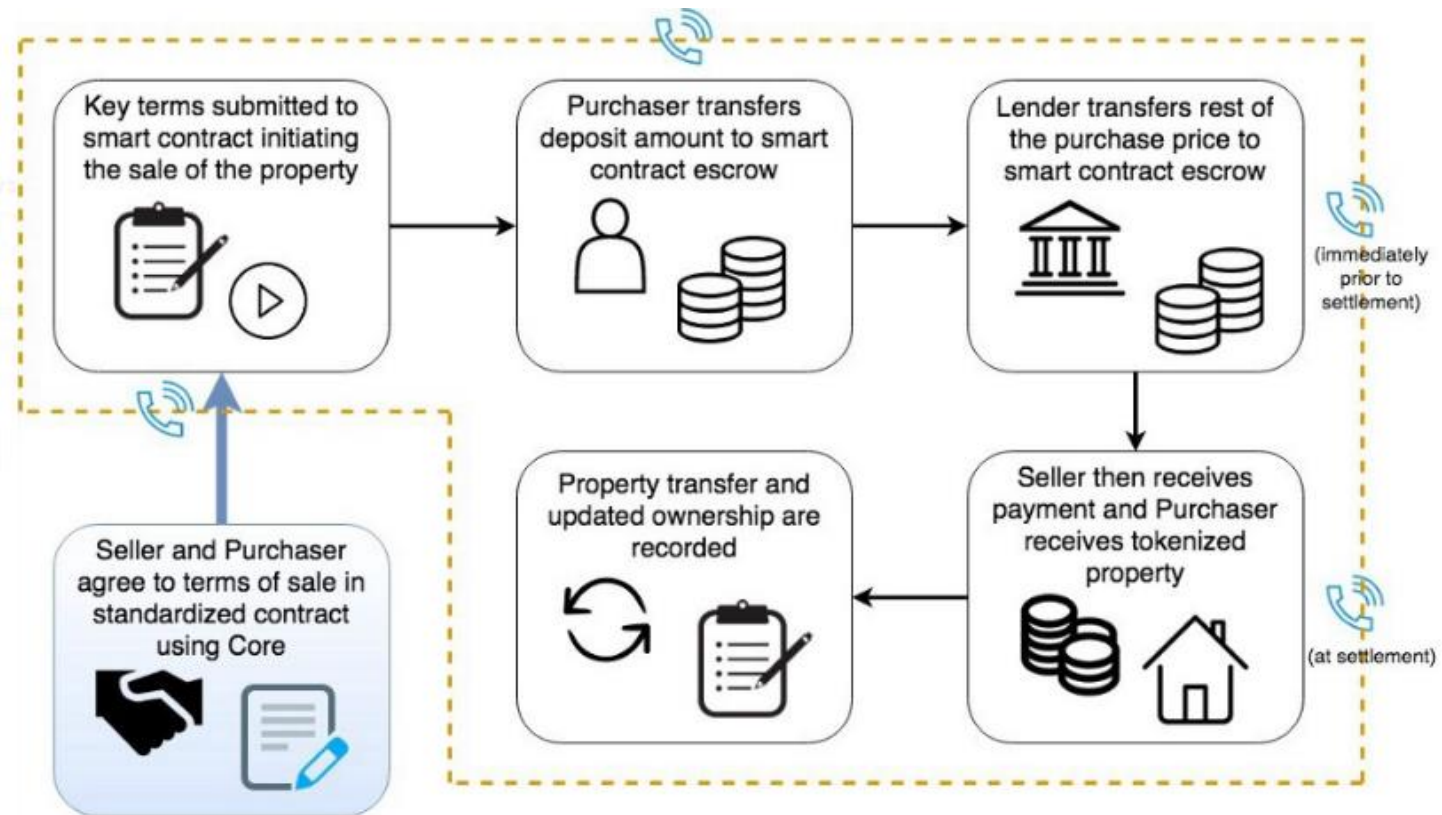- Blockchain-Based Arbitration System

# Case Study – Real Estate Transaction

**Objective**: Manage, automate, and streamline the sale of land, reducing commercial friction and transaction costs.

## Solution

1- Use ERC-721 or Security Tokens

2- Sale of Land Contract

3- Call to Smart Contract (Escrow)

4- Transfer Property Rights on Blockchain



Key terms submitted to smart contract initiating the sale of the property

Purchaser transfers deposit amount to smart contract escrow

Lender transfers rest of the purchase price to smart contract escrow

(immediately prior to settlement)

Seller and Purchaser agree to terms of sale in standardized contract using Core

Property transfer and updated ownership are recorded

Seller then receives payment and Purchaser receives tokenized property

(at settlement)

# Case Study Demo – Real Estate Transaction



**Land Registry**

This land registry is managed by **0x6bac42f017f6857d5e933fe02ad30c405ce7f678**.
There are currently **9** properties recorded.

**Look Up A Property**

Property ID

ChIJbU82dNW6MioRMk-GdoYr1NQ

Submit

**Property Details**  Clear Search

**123 Saint Georges Terrace, Perth, Western Australia 6000**
Sale Pending

Owner: 0x686baeec7d953bba5086f19a6142201c26c137de
Contract Terms:
Buyer: 0x1f65b2c45ebf424ca49f1a06be79405002f3ce33
Purchase Price: 5 ether
Deposit Amount: 2 ether
Loan Amount: 3 ether
Escrow Balance: 5 ether

Pay Deposit
Fund Loan
Complete Sale

**Complete Sale**
The sale must be completed from the owner's address.
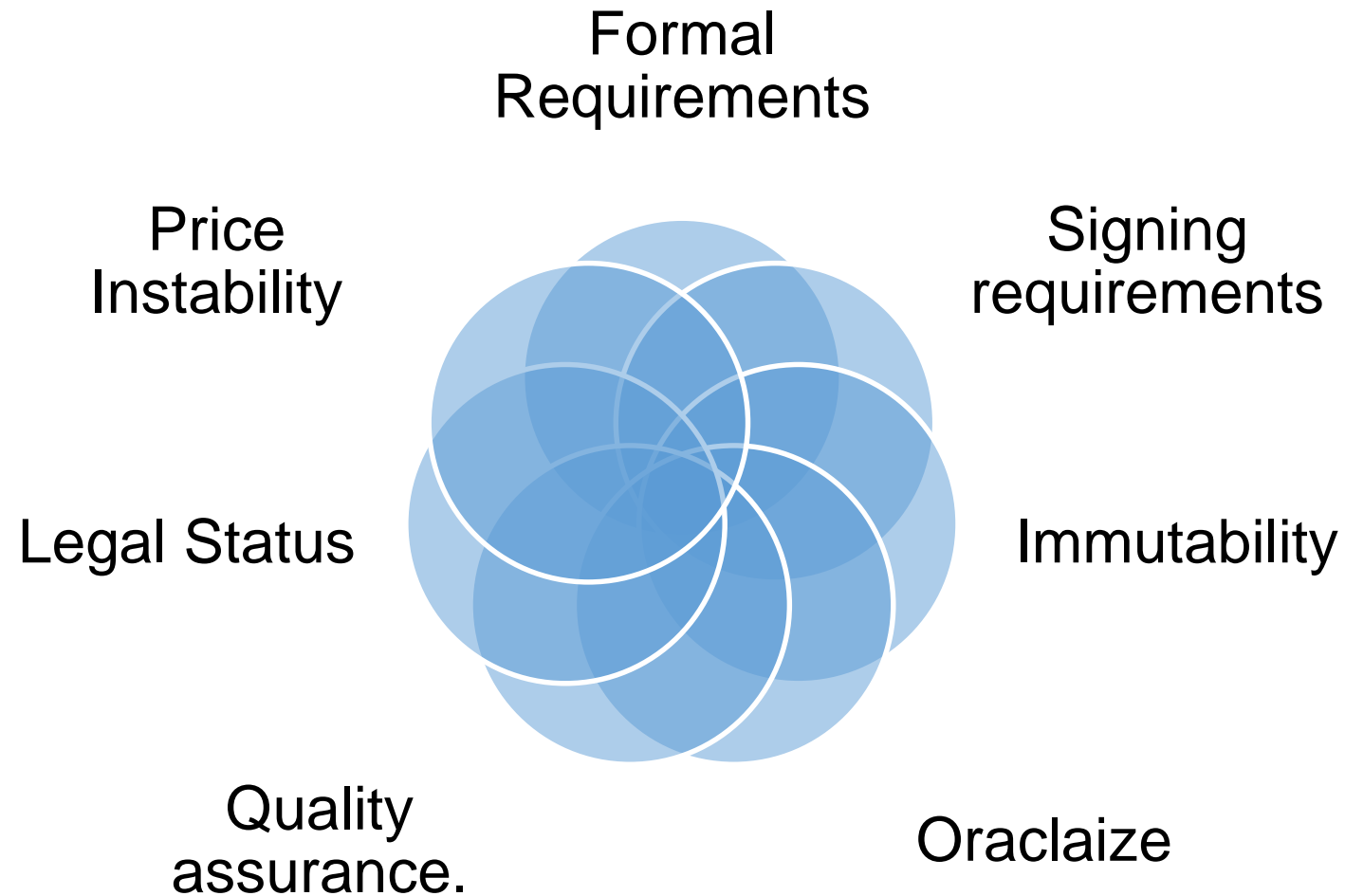The escrow balance must equal the purchase price under the cc

Complete Sale   Done

**Complete**
The sale has been completed. The owner is now
0x1f65b2c45ebf424ca49f1a06be79405002f3ce33.

# Legal Challenges and Considerations

Formal Requirements

Price Instability

Signing requirements

Legal Status

Immutability

Quality assurance.

Oraclaize

# Conclusion and Recommendation

Usable definitions of the technology

Choose the right regulatory approaches

Harmonize the law and interpretations of it.

Help policy makers understanding of the technology

Regulate Exchanges and Notarization

Enforcement AP and Stable Coin-Pegged with GOLD or USD

Government entities as Blockchain Participants.

# Thank You

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