

# Smart Contract Concept and Implementation

Taysir J. Shaqalaih  
12<sup>th</sup> Annual ICT Day, (FinTech)



## About Me

- \*Master Degree from Cambridge University.
- \*18+ years of diversified experience.
- \*Program Manager @ Mercy Corps/GSG – Gaza.
- \*Master minder of “Online Freelancing” project.
- \*Co-founder of Inspire IT Solutions.

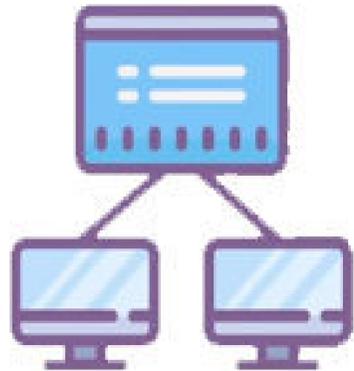




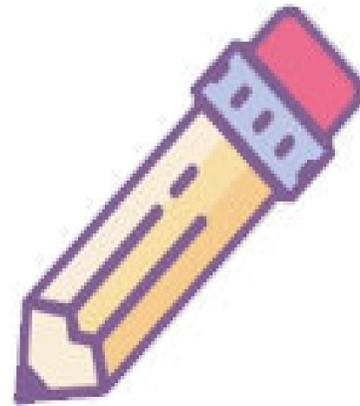
# Block Chain?

“An open, **distributed ledger** that can record **transactions** between two parties efficiently and in a verifiable and **permanent** way”

## Block Chain Advantages



**Distributed**



**Immutable**



**Everyone**



# Smart Contracts



## Smart Contracts Defined

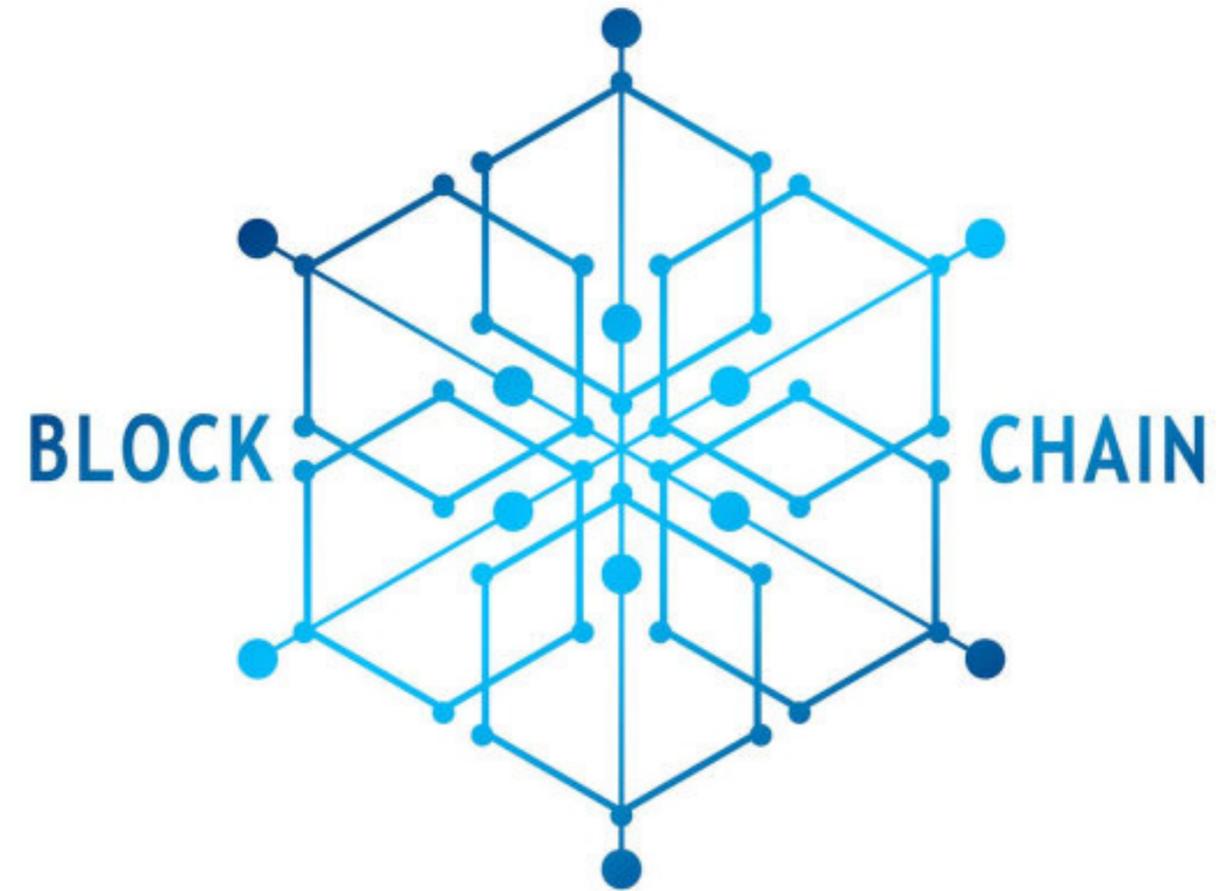
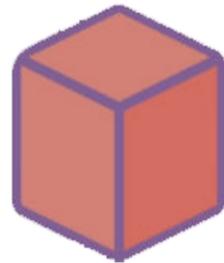
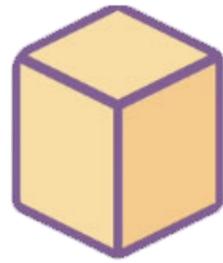
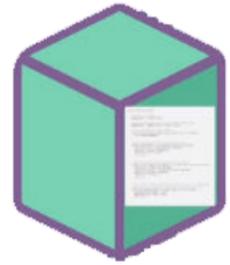
- Self-executing contracts.
- Terms of the agreement between the two parties being directly written into lines of code.
- The code and the agreements contained in Block chain network.

# It's Simply a Code....

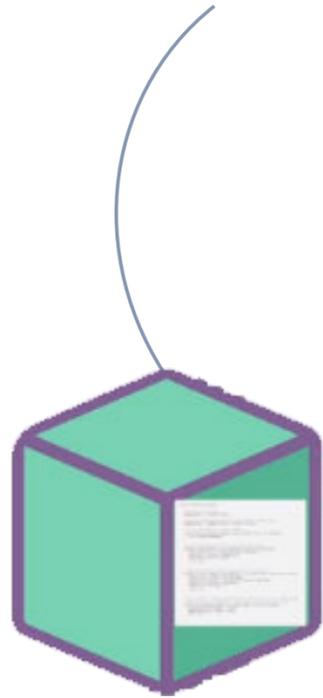


```
contract TokenContractFragment {  
  
    // Balances for each account  
    mapping(address => uint256) balances;  
  
    // Owner of account approves the transfer of an amount to another account  
    mapping(address => mapping (address => uint256)) allowed;  
  
    // Get the token balance for account 'tokenOwner'  
    function balanceOf(address tokenOwner) public constant returns (uint balance) {  
        return balances[tokenOwner];  
    }  
  
    // Transfer the balance from owner's account to another account  
    function transfer(address to, uint tokens) public returns (bool success) {  
        balances[msg.sender] = balances[msg.sender].sub(tokens);  
        balances[to] = balances[to].add(tokens);  
        Transfer(msg.sender, to, tokens);  
        return true;  
    }  
  
    // Send 'tokens' amount of tokens from address 'from' to address 'to'  
    function transferFrom(address from, address to, uint tokens) public returns (bool success) {  
        balances[from] = balances[from].sub(tokens);  
        allowed[from][msg.sender] = allowed[from][msg.sender].sub(tokens);  
        balances[to] = balances[to].add(tokens);  
        Transfer(from, to, tokens);  
        return true;  
    }  
  
    // Allow 'spender' to withdraw from your account, multiple times, up to the 'tokens' amount.  
    // If this function is called again it overwrites the current allowance with _value.  
    function approve(address spender, uint tokens) public returns (bool success) {  
        allowed[msg.sender][spender] = tokens;  
        Approval(msg.sender, spender, tokens);  
        return true;  
    }  
}
```

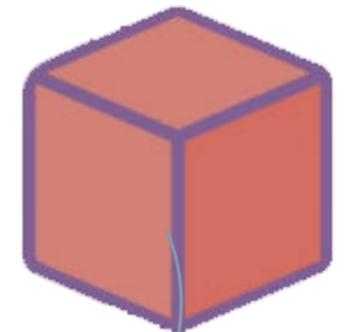
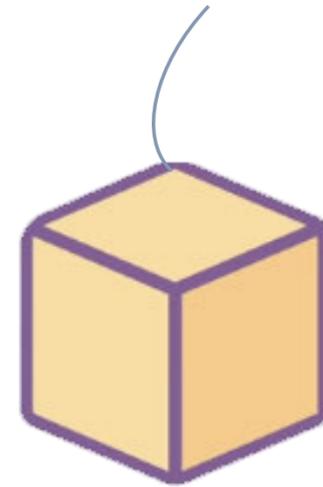
Stored inside a block  
chain



Accessible for everyone

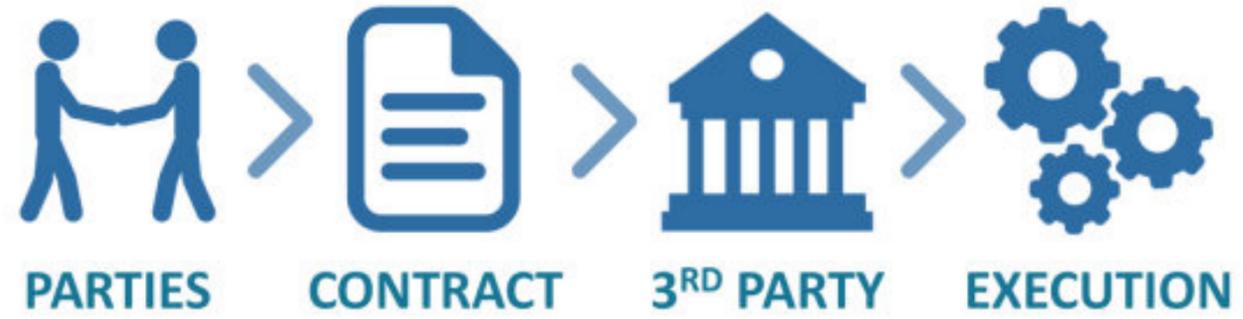


Everyone can interact



Consensus about outcome

## TRADITIONAL CONTRACT



## SMART CONTRACT



# Send & receive coins Other Contracts



# Smart Contract Benefits for Business



Direct dealing  
with customers



Resistance  
to failure



Immutability



Fraud reduction



Cost  
efficiency

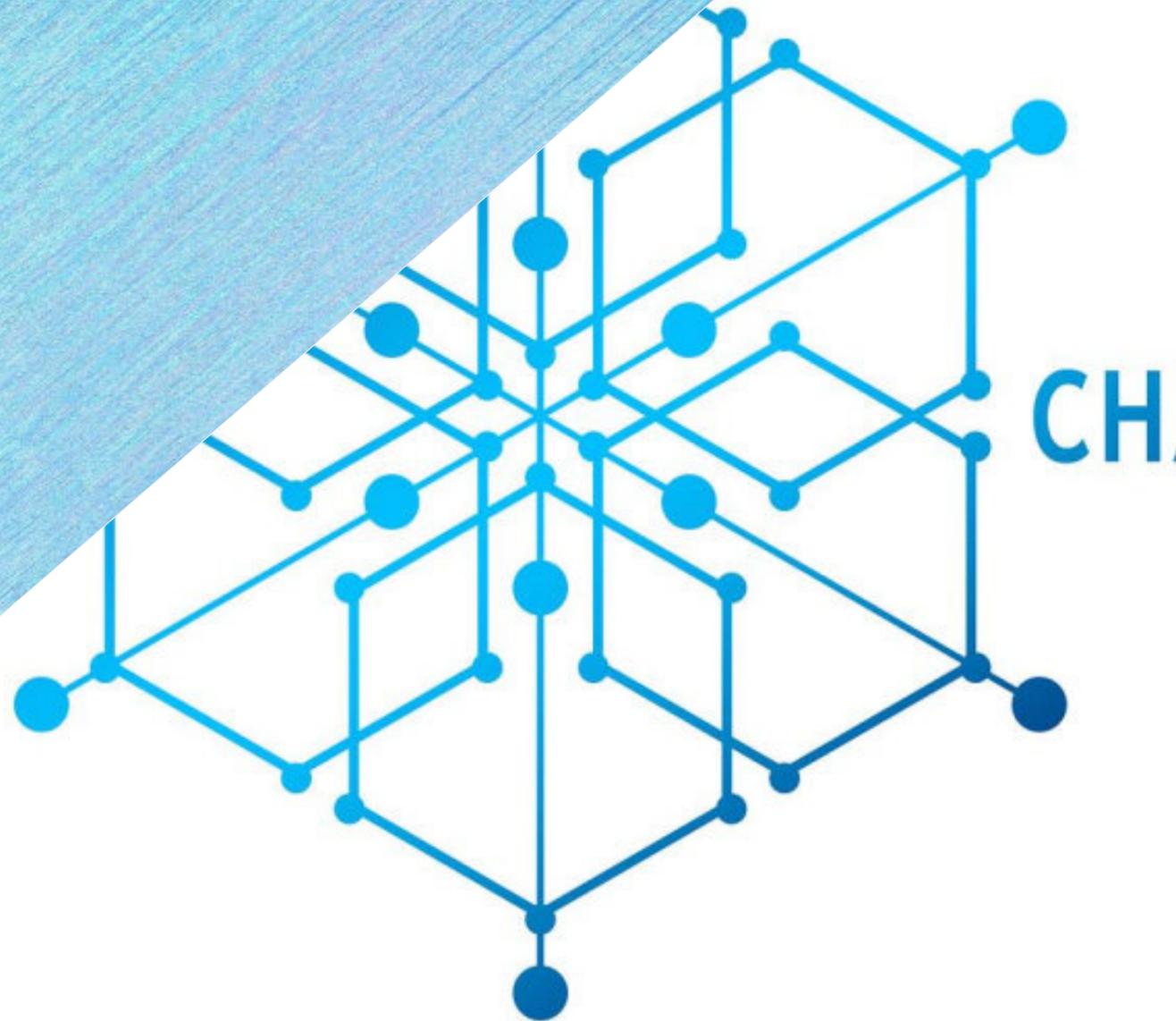


Records  
keeping



# Smart Contracts Use Cases

- **Banking**
- **Healthcare**
- **Supply Chain**
- **Legal Issues**
- **Real Estate**
- **Government**
- **IoT Networks**
- **And many other Applications.....**



## Implementation of Blockchain Smart Contracts - A Use Case for Investment

- Abed al-Salam alZain
- 12<sup>th</sup> Annual ICT Day, (FinTech)

# About Me

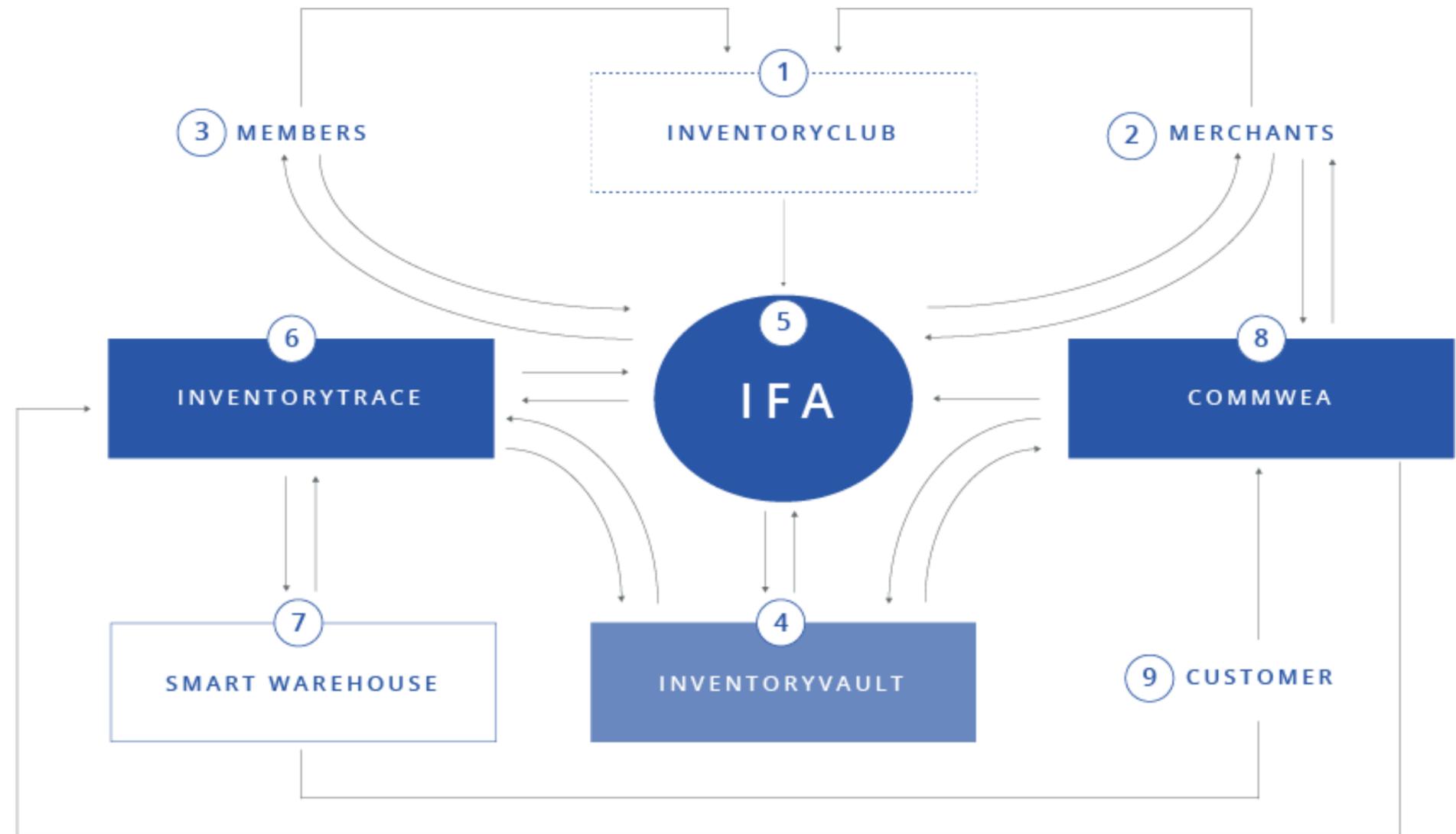
- Block chain Developer.
- Lead Developer of **Inventory Club** Project.
- Team leader & co-founder of Inspire IT solutions.



# INVENTORYCLUB

A peer-to-peer inventory financing system that enables online merchants to access inventory without the need to go through financial institutions

# ECOSYSTEM



## INVENTORY FINANCE AGREEMENT

- IFA is a smart contract designed to facilitate, verify or enforce the performance of contract between the member and the merchant.
- Each time a sale is recorded, the smart contract is executed and splitting money between member and merchant.
- Once created the rules governing the IFA cannot be altered and the smart contract is recorded on the InventoryVault (Blockchain)

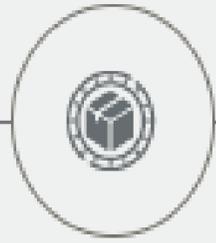




# IT WORKS? 1- MEMBERS



Browse  
Proposals



Buy Chosen  
Proposal



IFA Generated



Customer  
Buys Product

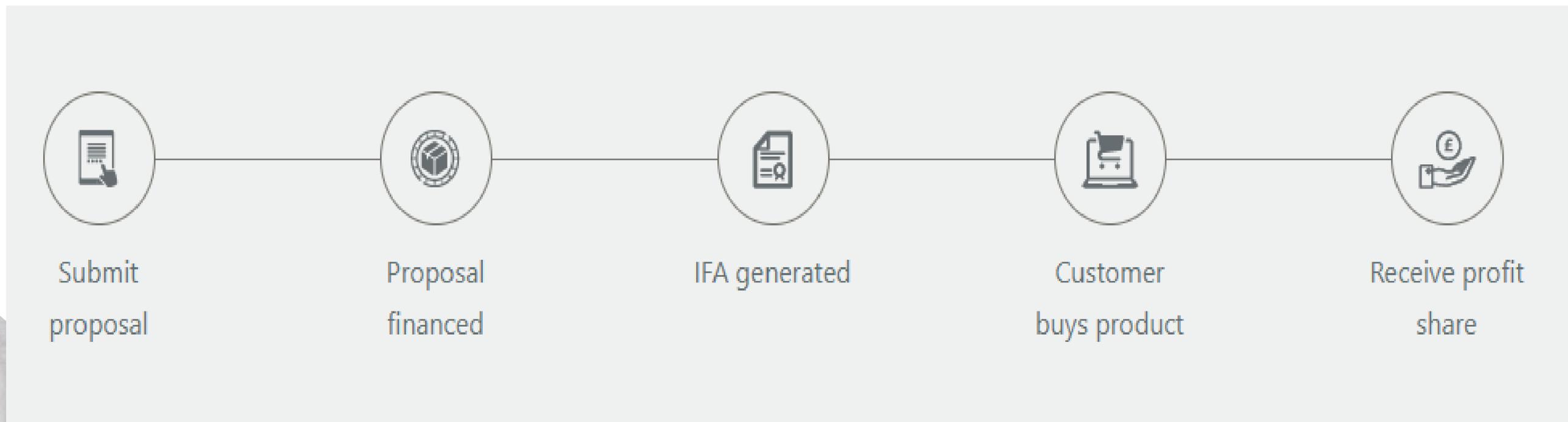


Receive Profit  
Share

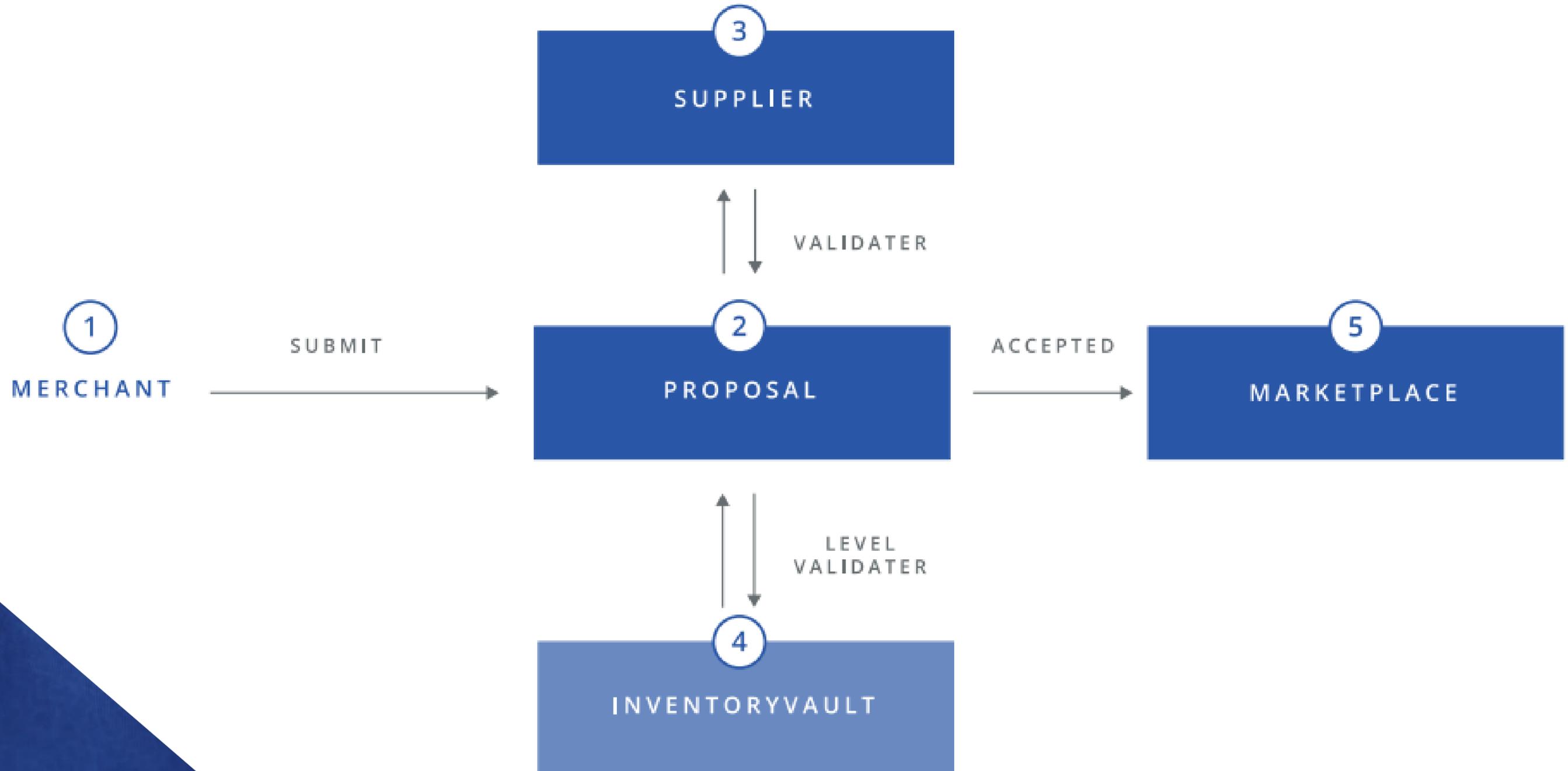
# HOW

## IT WORKS?

## 2- MERCHANTS



# TRADING IN THE IC





# INVENTORY FINANCE AGREEMENT

inventoryclub **Member**
Switch

Dashboard Marketplace My IFAs Leaderboard Visit CommWea
Report a Bug  Help

## Inventory Finance Agreement

[InventoryClub](#) / [Marketplace](#) / [Proposal Detail](#) / [IFA](#)

### 1. PARTIES

---

**Merchant:**  
Merchant ID: 993ddee3909648fcaf5c40ea90fbd873

**Member:**  
Member ID: a0181283960d49b5a5dfccff047a74a7

### PRODUCT

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Nike Air Max 95 Essential  
Category: Men's Trainers  
Consumer Group: Men

### FINANCE

---

Quantity: 1	Timeframe: 1 Month
Unit Cost: £46.00	Retail Price: £116.00
<b>Total Proposal Value: £46.00</b>	<b>Total Retail Value: £116.00</b>

### Payment Terms

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Below are the scenarios that govern the payout terms of this Inventory Finance Agreement. Please read each one carefully as the payout terms cannot be altered once accepted.

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#### Finance Overview

Unit Price	£46.00
Retail Price	£116.00
Profit	£70

---

#### Within Timeframe

Provided the sale of a product from this IFA is sold within the specified timeframe the funds from the sale will be split in the following way per unit sale:

	MEMBER	MERCHANT
Unit Price (initial investment)	£46.00	-
Share of Profit (%)	35%	65%
Share of Profit (£)	£24.5	£45.5
<b>Total Payout</b>	<b>£70.5</b>	<b>£45.5</b>

### 3. PURCHASE PROPOSAL

PROPOSAL ID:	P407a26814cf443638a64dd9d09fc25b
PROPOSAL NAME:	Nike Air Max 95 Essential
UNIT PRICE:	£46.00
QUANTITY:	1
SUBTOTAL	£46.00
ADMIN FEE @ 5%	£2.30
TOTAL	£48.30
TOTAL TO PAY IN VNT	539.66 VNT

- I have read and agree with the terms of this Inventory Finance Agreement (IFA).
- I have read and agree with the InventoryClub terms and conditions.

**CHECKOUT**

[Pay Now!](#)

**Grace Period**  
 If the timeframe specified by the merchant is exceeded then there will be a grace period of up to 5 months. Every month past the expiry date the merchant will forfeit 20% of their total profit, which will be added to the members profit. The funds will be split in the following way per unit sale:

**Grace Period Month 1**

	MEMBER	MERCHANT
Unit Price (initial investment)	£46.00	-
Share of Profit (%)	48%	52%
Share of Profit (£)	£33.6	£36.4
Total Payout	£79.6	£36.4

**Grace Period Month 2**

	MEMBER	MERCHANT
Unit Price (initial investment)	£46.00	-
Share of Profit (%)	61%	39%
Share of Profit (£)	£42.7	£27.3
Total Payout	£88.7	£27.3

**Grace Period Month 3**



# INVENTORY FINANCE AGREEMENT

# INVENTORY FINANCE AGREEMENT

inventoryclub Member

Switch Search... Report a Bug Help

Dashboard Marketplace My IFAs Leaderboard Visit CommWea

### Inventory Finance Agreement

InventoryClub / My IFAs / IFA Product Sales

#### IFA Overview

IFA IV ID: 11a86a8f069554ba09609268428dc768

Merchant: Canio

Merchant Id: 46a76dd3a061485698a481dfbc0daa52

Member Id: a0181283960d49b5a5dfccff047a74a7

Product: Geox J Xunday Lace Up Hi-Top Shoes

Category: Girl's Boots

Consumer Group: Girls

Purchase Date: Nov 26, 2018

Contract Start Date: Nov 26, 2018

Term: 1 Month

Remaining: 30 Days

[Payment Terms](#)

#### IFA Items

DATE RECIEVED	ASSET ID	SKU	STATUS
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#### Financial Details

Unit Cost: £15.00

Retail Price: £46.00

Merchant Profit: 20%

Member Profit: 80%

Quantity: 4



Thanks

