



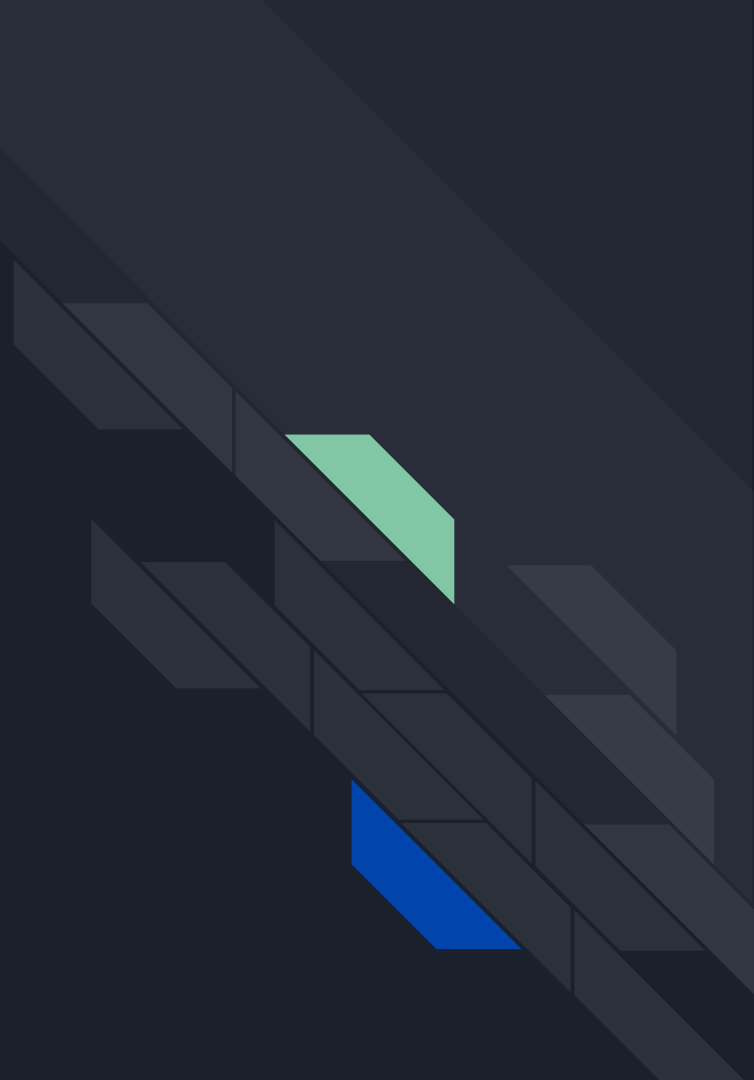
Blockchain for finance and banks

Year : 2023-2024

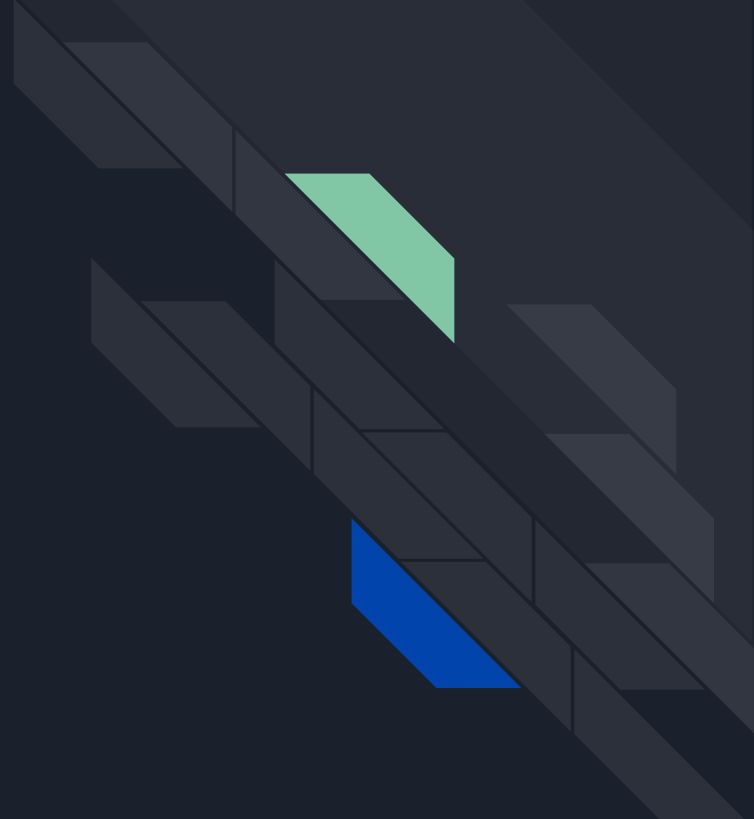
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Master : Distributed Information Systems Engineering and Security

Chapter 02
*The benefits of purchasing
and selling*



1. *Fund raising*



Definition

Fundraising is the process of gathering voluntary financial contributions from individuals, businesses, charitable foundations, or governmental agencies to finance projects or support the activities and initiatives of non-profit organizations.



Different fundraising techniques

- **Philanthropic sponsorship:** is a technique for fundraising. Philanthropic sponsorship is a type of corporate sponsorship where a company provides cash or in-kind products or services to a nonprofit organization to further its mission. The company receives the benefit of promoting its brand image, products, or services while supporting a charitable cause .



Different fundraising techniques

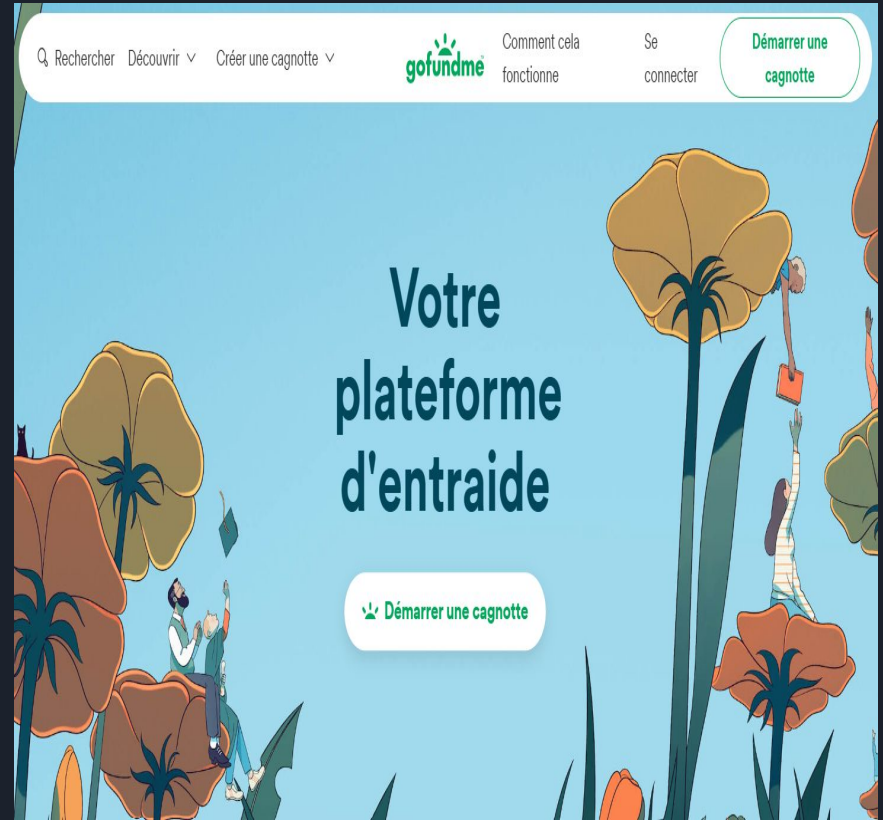
- **Online Donations** : Online Donations, also known as digital fundraising, is a fundraising technique that leverages the power of the internet to collect funds quickly and efficiently for various projects or causes.
here are some popular digital fundraising platforms



- **Donorbox** is a comprehensive online fundraising platform designed for nonprofits and organizations. It offers customizable donation forms, supports recurring donations, integrates with popular website platforms and payment gateways, and provides analytics and reporting. Donorbox is known for its commitment to data security, mobile optimization, and a nonprofit discount, making it a valuable tool for efficient and effective fundraising.



- **GoFundMe** is a popular and widely used online crowdfunding platform designed to facilitate fundraising for a wide range of personal, charitable, and creative endeavors. It allows individuals, groups, and organizations to create personalized fundraising campaigns and share their stories with a global audience. Users can set financial goals, provide detailed information about their cause, and accept contributions from a community of donors.



Different fundraising techniques

- **Events** : Non-profit organizations use fundraising events like concerts, fairs, and sports tournaments to raise funds, engage the community, and build donor relationships. Effective planning, audience targeting, sponsorships, and promotion are crucial for success and extending impact.





Blockchain and fundraising

Donating to charity is a noble gesture, but many donors worry about how their money is actually being used. Blockchain technology can help solve this problem by making sure that every donation is tracked and accounted for.

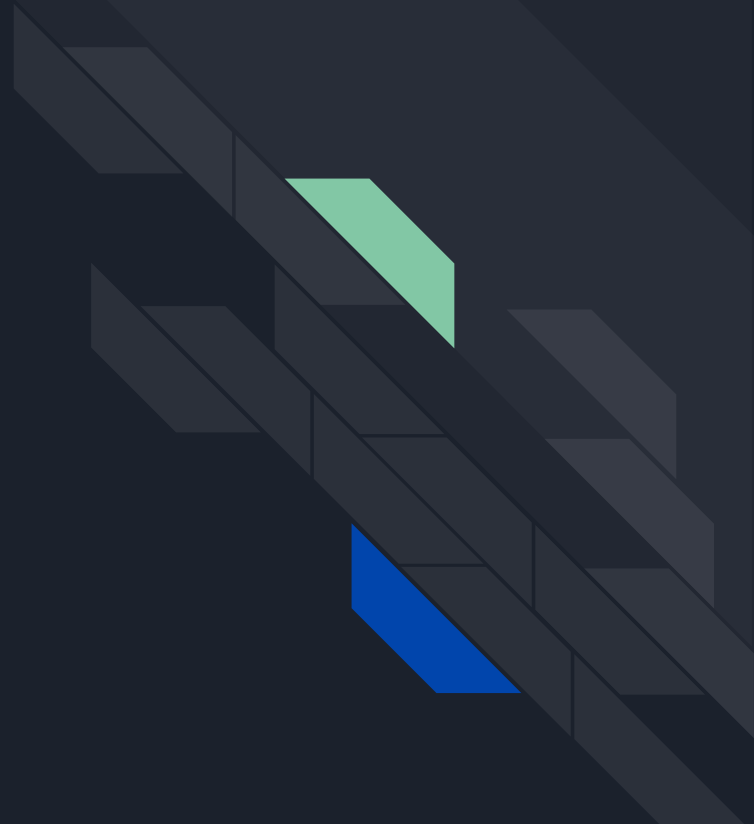
Imagine a world where you could see exactly how your donation was used, from the moment you made it to the moment it reached the people who needed it most. That's the promise of blockchain technology for fundraising.



Blockchain and fundraising

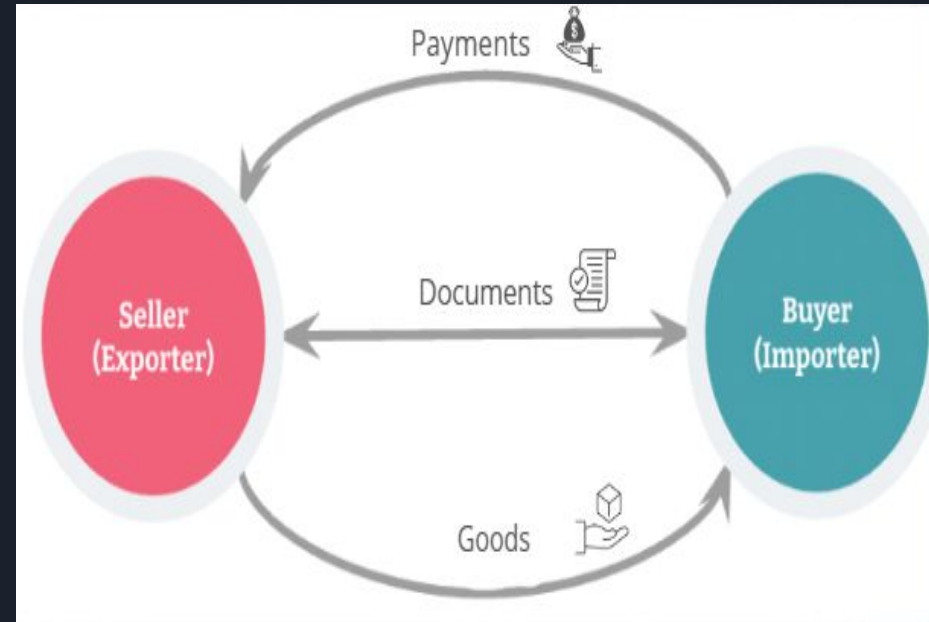
- The Blockchain technology can be used for fundraising by creating and exchanging digital tokens (cyber currencies) and financial securities. This is often done through Initial Coin Offerings (ICOs).
- An ICO is a new way of raising funds for various projects that involve using blockchain technology. Unlike traditional Initial Public Offerings (IPOs), investors in ICOs receive digital assets called tokens, not company shares. These tokens grant access to future services.
- Initial Coin Offerings (ICOs) are a way for entrepreneurs to raise funds by issuing digital coins or tokens through smart contracts on blockchain technology. These smart contracts automatically facilitate transactions between entrepreneurs and investors, potentially reducing the need for traditional intermediaries.

2. Trade financing



Definition

- Trade finance is a set of financial instruments and products designed to facilitate international trade and commerce. It helps businesses engage in cross-border transactions by providing solutions to the challenges and risks associated with buying and selling goods and services across different countries.
- It aims to mitigate the risks inherent in cross-border transactions, such as non-payment, non-delivery, and foreign exchange fluctuations, thereby the trade finance enable businesses to engage in international trade with greater confidence and security.



Parties involved in trade finance

❖ The Importer

The party who is buying the goods or services from the exporter

❖ The exporter

The party who is selling the goods or services to the importer

❖ The issuing bank

The issuing bank is a crucial part of trade finance, acting as the intermediary that provides a Letter of Credit (LC).

❖ The advising bank

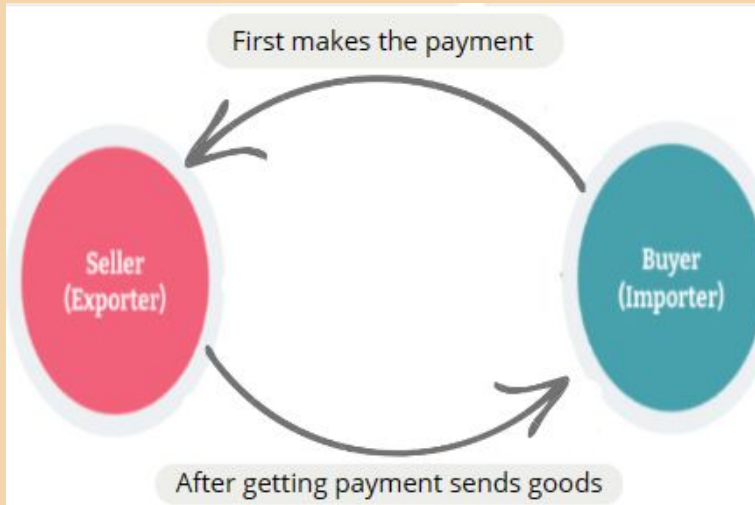
the advising bank acts as a crucial intermediary between the issuing bank and the beneficiary (exporter). The advising bank plays a pivotal role in ensuring seamless communication and facilitating the smooth flow of information and payments within the trade finance transaction.

A Letter of Credit is a contractual commitment by the foreign buyer's bank to pay once the exporter ships the goods and presents the required documentation to the exporter's bank as proof.

Trade finance

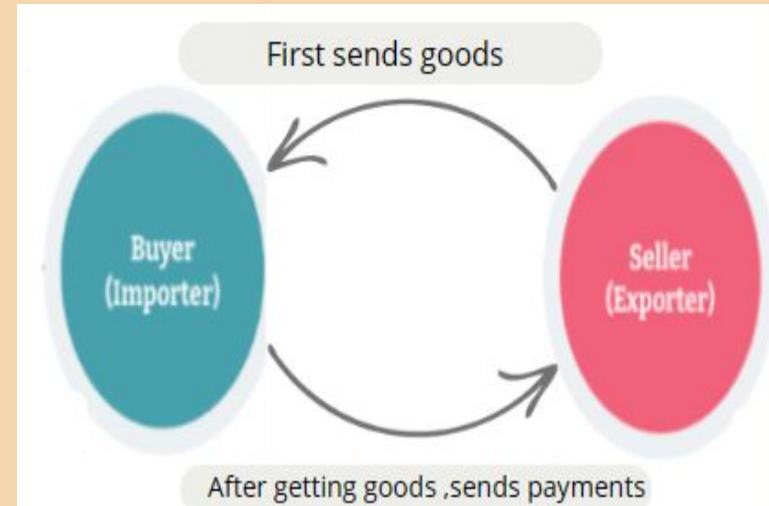
Methods in trade finance:

Advance payment method



Advance payment in trade finance refers to a situation where a buyer makes payment for goods or services before receiving them. In this method the importer is at high risk

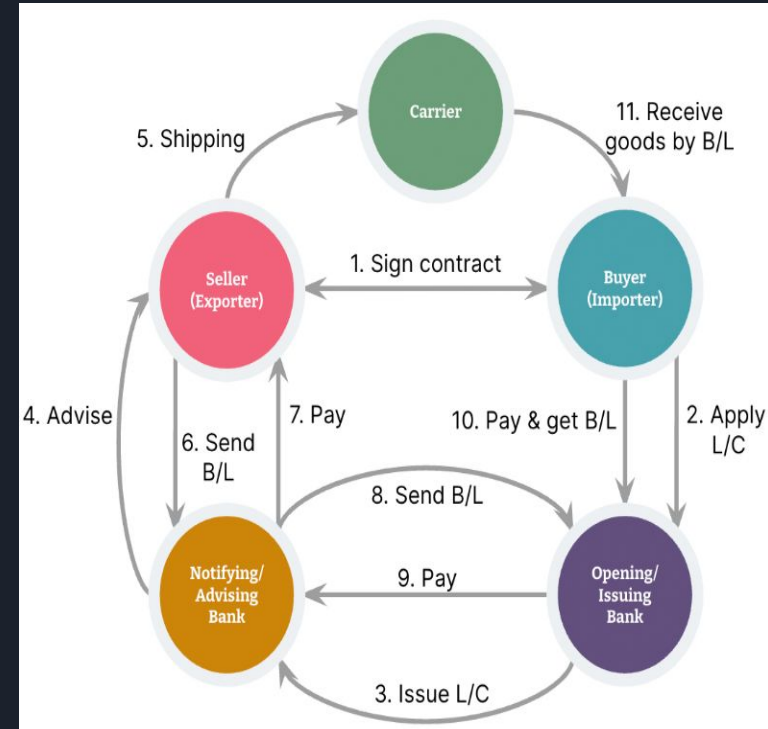
Open account method



Open account is a payment method in international trade where the goods are shipped and delivered to the importer before the exporter receives payment. In this method the exporter is at high risk

Trade finance :Letter of credit process

1. **Agreement on Terms** :The importer and exporter agree on the terms of the trade transaction, including the goods or services to be exchanged, the price, and the payment terms.
2. **Application for Letter of Credit (L/C)**:Importer applies for a letter of credit from their bank.
3. **Issuance of Letter of Credit**:Issuing bank reviews the importer's application and, if approved, issues a letter of credit to the exporter or the exporter's bank.
4. **Advising the Letter of Credit**: Advising bank receives the letter of credit and informs the exporter of its existence.
5. **Shipment of Goods or Services** : Exporter ships the goods or services to the importer.
6. **Documentation Presentation** :Exporter presents the required documentation (e.g., bill of lading, invoice) to the advising bank.
7. **Documentary Compliance Check** :The advising bank reviews the documentation and, if it is in compliance with the terms of the letter of credit, pays the exporter.
8. **Reimbursement to Issuing Bank**: The advising bank then reimburses the issuing bank.
9. **Debiting Importer's Account**:The issuing bank debits the importer's account for the amount of the payment.



Figure

Current limitations of cross-border trade finance

Some limitations include:

Manual processes

Many trade finance processes are still manual, which can lead to errors and delays. For example, the issuing bank (the importer's bank) must manually review sales contracts, import documents, and financial information.

Multiple intermediaries

Trade finance transactions often involve multiple intermediaries, each with its own compliance policies and internal processes. This multiplicity of entities can result in delays and inefficiencies, as each intermediary is required to independently verify the transaction.

Document falsification

Document falsification can occur when the communication channel used is not authenticated or protected against unauthorized access. As a result, records may be manipulated, duplicated, or falsified.

The trade finance and blockchain technology

1. Traditional Trade Finance Transaction

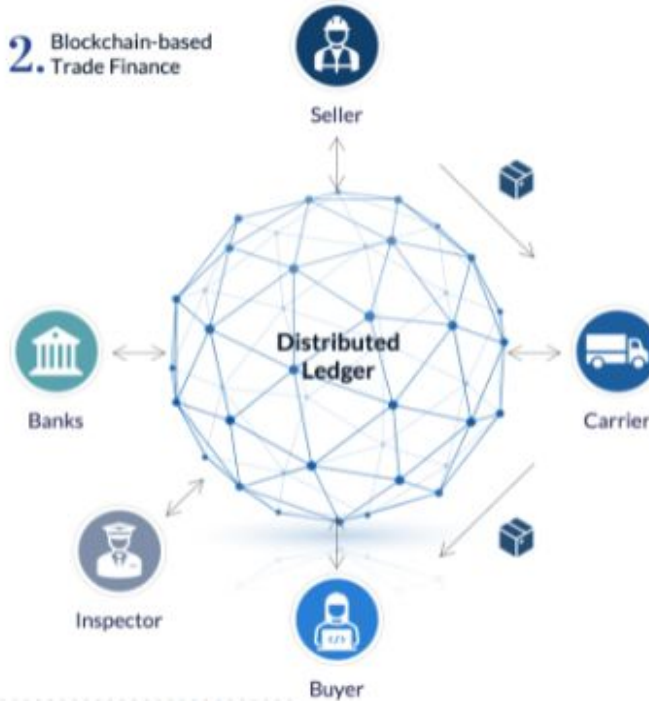


Documents

Funds

Goods

2. Blockchain-based Trade Finance



In a blockchain-enabled Letter of Credit (L/C) process, all involved parties, such as the importer, exporter, issuing bank, advising bank, and others, use a secure and immutable ledger to record transaction data. This shared ledger eliminates the need for redundant document exchanges. The use of smart contracts automates L/C terms and conditions, ensuring that payments are made only when all compliance requirements are met. This automation further enhances the efficiency and security of the process.

❖ Transactions flow :

- The Importer and Exporter agree on a trade facilitated by a blockchain-based Letter of Credit (LC).
- The Importer generates a digital purchase order, forming the contract for the LC, and requests the Issuing Bank to issue it.
- LC details are recorded on the blockchain, and the Issuing Bank processes and transmits the LC to the Advising Bank.
- The Advising Bank digitally advises the Exporter via the blockchain network.
- The Exporter digitally accepts or rejects the LC, establishing a contract upon acceptance.
- Goods are provided by the Exporter as per the LC, and the Importer makes payment based on the agreed terms.

The advantages of using blockchain in trade finance



Real time review

Blockchain technology streamlines financial document review and approval, enabling real-time access and verification, significantly reducing the time it takes to initiate shipments.



Proof of ownership

The title that is accessible via the Blockchain provides details regarding the ownership and location of goods in a transparent manner.



Transparent factoring

Using blockchain for invoices allows you to see short-term financing in real time and with complete transparency.



Decentralized contract execution

As contract terms are met, Status is updated on Blockchain in real time. reducing the time and headcount required to monitor the delivery of goods.

Blockchain Applications in Trade Finance: Use Cases

Future State Vision



1 Upon purchase, the agreement of sale between the importer and exporter is shared with import bank using a Smart Contract on the Blockchain



2 In real-time, the import bank will have capability to review purchase agreement, draft terms of credit and submit obligation to pay to export bank

1

2



3 Goods will be inspected by 3rd parties and the customs agent in the exporting country - with all providing their respective digital signature of approval on the Blockchain smart contract



4 After receiving the obligations, the exporter will digitally sign Blockchain-equivalent letter of credit within the smart contract to initiate shipment



3 Export bank will review the provided payment obligation and once approved, a Smart Contract will be generated on the Blockchain to cover terms & conditions and lock-in obligations

3

5

4



6 During transit, goods will be transported from Country A to Country B



7 Upon delivery, importer will digitally acknowledge receipt of goods and trigger payment



8 Using provided acknowledgement, Blockchain will automate payment from importer to exporter via a Smart Contract

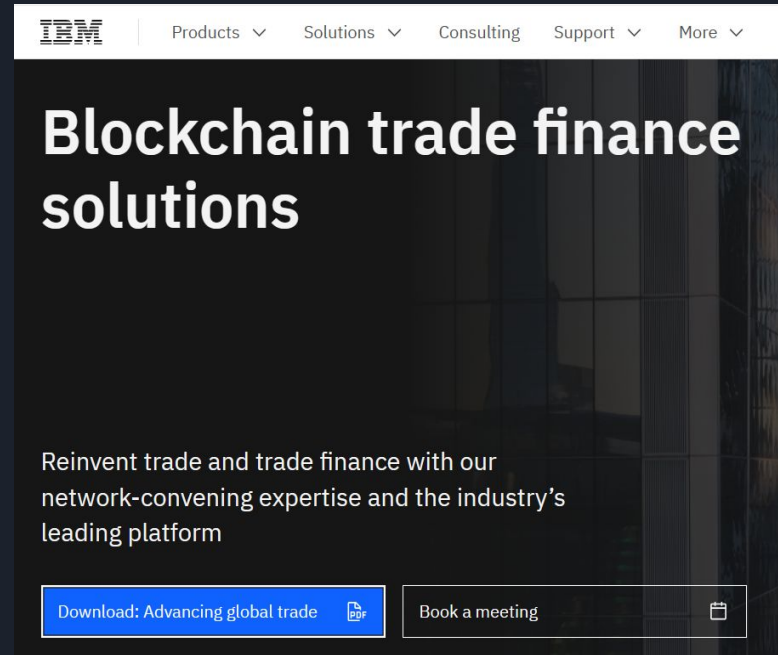
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Blockchain Applications in Trade Finance: Use Cases

❖ IBM

- IBM Blockchain solutions for trade finance enable real-time, multi-party tracking and management of bank guarantees and letters of credit.
- IBM's blockchain solution for trade finance standardized rules and simplified trading options, reduces risk and enhances trading opportunities for banks and SMEs (small to medium-sized enterprises) , fostering a more efficient and secure trade environment.



The screenshot shows the top portion of the IBM website. At the top is the IBM logo followed by a navigation menu with items: Products, Solutions, Consulting, Support, and More. Below the navigation is a large dark banner with the text 'Blockchain trade finance solutions' in white. Underneath the banner, there is a sub-headline: 'Reinvent trade and trade finance with our network-convening expertise and the industry's leading platform'. At the bottom of the banner are two buttons: a blue button labeled 'Download: Advancing global trade' with a PDF icon, and a white button labeled 'Book a meeting' with a calendar icon.