



## International trade and banking domiciliation: SMEs and VSEs face the reality principle!

SMEs and VSEs are often companies with high potential of growth and innovation but whose international development process is hampered by the fragility of their financial structure, given the level of cash flow mobilized by international trade and the Risks related to the settlement of transactions. In fact, most SMEs are reluctant to develop their exports because of the risks of unpaid debts that threaten their small financial surface. The presentation of the commercial invoice and even the contract does not offer any guarantee of payment on time and assumes significant costs in case of litigation.

Even the exporter's ability to guarantee the payment of part of his claim by requesting a deposit or security check remains limited by his bargaining power: the customer may indeed refuse this condition by arguing for instance that he himself has no guarantee of being delivered the goods.

In this context, export credit insurance is an appropriate solution... but onerous! In France, this service costs an average of 4,000 euros of premiums per year, which is hardly conceivable for an SME that does not realize the majority of its turnover by exporting.

It then remains for the exporter to solicit the bank domiciliation of the commercial transaction via, in particular, the documentary credit, in order to be sure of the payment. However again, is it possible to impose this modality on a client whose concern is to minimize the time required to complete the operation? Or on a client whose modest financial surface does not make it possible to realize a documentary credit? This is, of course, far from being gained and this therefore questions the commercial opportunities.

On the side of importing SMEs or importing small companies, the problem is quickly identified: due to their size, the solvency risk is sufficiently present in suppliers' awareness; these require then a secure method of settlement, often through a documentary credit. But since documentary credit costs these companies a lot in terms of bank commissions and cash mobilized, they are quickly discouraged by the risk of being "in the red." At the same time, from the point of view of the customer, paying the invoice in advance (partially or totally) does not guarantee that the goods will actually be delivered and also assumes a constraint in terms of cash management...

Thus, the reality of things puts SMEs and VSEs, whether they export or import, facing barriers to entry in international trade. This limits them in their progress and reduces the scope of opportunities to be exploited in an economy that continues to internationalize.

For the moment, let's say that documentary credit is the safest method of settlement, but at the same time it is quite costly for the importer in terms of money and time. This proposal will be explained and detailed in the following section.

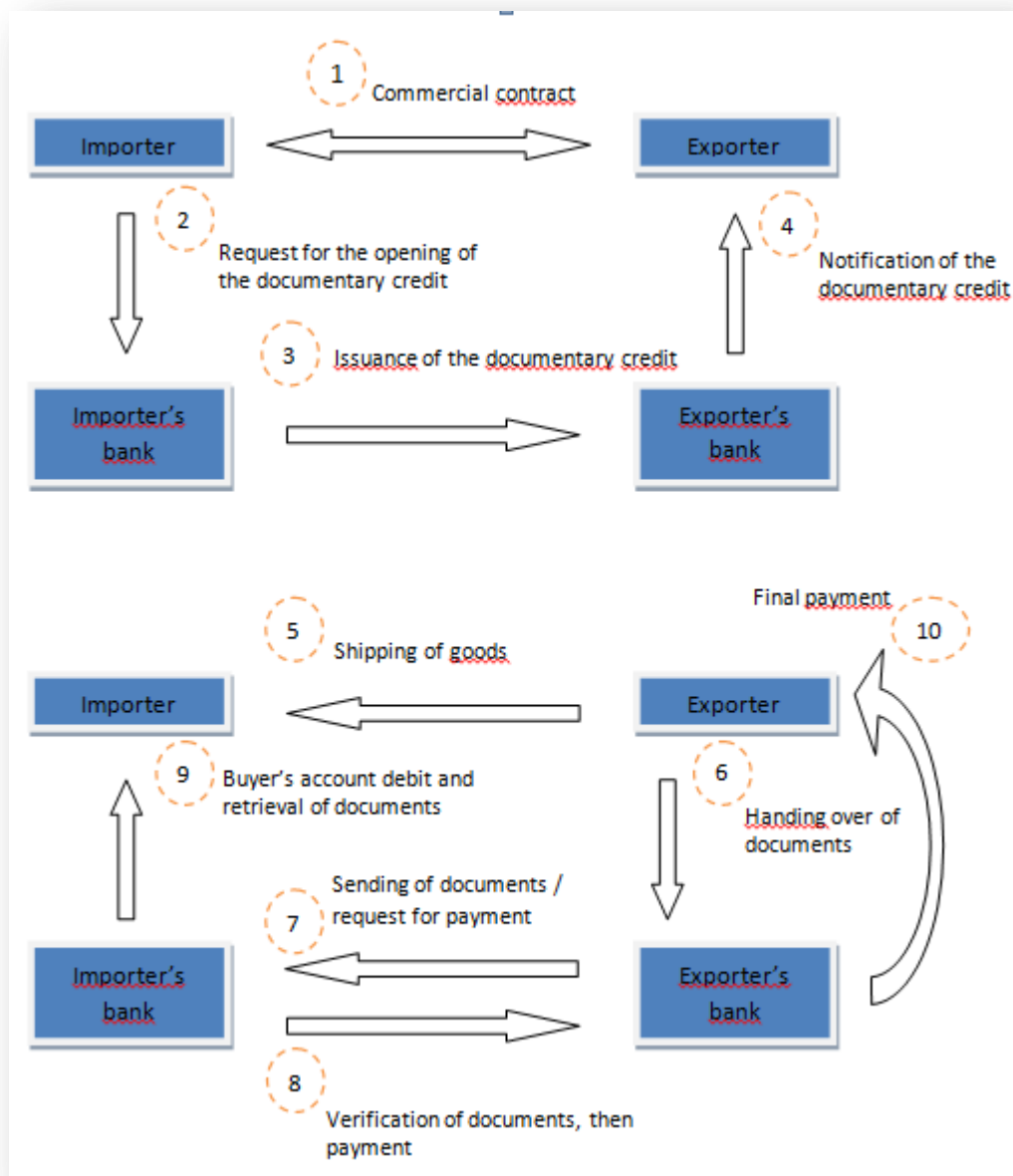


## The bank as a trusted third party: focus on documentary credit

Documentary credit is a written undertaking issued by a bank, at the request of the importer (buyer), to pay an exporter (seller) against the value of the draft and/or other documents, provided that the exporter complies with the terms and conditions laid down in the credit.

Documentary credits are amongst the safest and most commonly used forms of payment in exporting (other than payment in advance). They are typically used to pay for exports to customers that you have not sold to before, as well as for customers and countries that represent particular credit risks. In fact, a documentary credit carries assurances for both the exporter and the importer. It's an undertaking by a bank – the exporter therefore relies on the ability of the bank instead of the importer to pay. The importer, in turn, has the assurance that the bank will not release the money to pay for the goods until the exporter has presented the necessary documents which will include proof of dispatch of the goods to their final destination.

A basic process of documentary credit could be defined as follows :



1 Conclusion of the contract between the importer and the exporter. During the negotiations, it was agreed that the method of payment would be a documentary credit.

2 Opening instructions. The importer asks his bank to open a documentary credit which must be notified by the bank of the exporter. In the opening instructions, the importer fills out a form specifying the documents required to import the goods.

3 Opening. The importer's bank issues the documentary credit and forwards it to the bank of the exporter.

4 Notification. After the necessary checks, the exporter's bank notifies its client that it has received a documentary credit in its favor. The exporter checks whether the conditions specified are in line with what was established during the negotiations.

5 Shipping of goods. After verification of the conformity of the conditions, the exporter ships the goods and prepares the documents requested in the credit instructions.

6 Submission of documents. The exporter presents the documents to his bank. It ensures that all documents comply with what was required in the documentary credit.

7 Sending of documents. The exporter's bank sends the documents to the importer's bank and asks to be paid.

8 Verification. The importer's bank verifies all documents in order to determine their compliance. If all is in conformity, it makes the requested payment.

9 Customer debit and delivery of documents. The bank of the importer debits his client of the amount of the documentary credit and gives him all the documents. The importer can then clear the goods and take possession of them.

10 Payment. The exporter's bank pays its customer less the applicable fees.

It can be seen from the process that, unlike free transfer, which does not involve banks as trusted third parties to guarantee the exporter to be paid and the importer to be delivered, documentary credit create a climate of mutual trust in international trade operations.



## Challenging the traditional model : our concept

We know that documentary credit is the best solution to guarantee both the supplier (exporter) to be paid and the customer (importer) to receive the goods specified in the commercial contract. However, this modality remains rather costly for small companies, both in terms of bank commissions to be paid and time consumed by the procedure.

It is also known that these companies can carry out their import / export operations by using "free transfer" arrangements (such as the international transfer), which remain inexpensive and less time consuming. Nevertheless, in this case, there would be no guarantee that the exporter will ship the goods as specified, and even less the importer will pay his supplier. Unless there is a strong relationship of trust between the two parties, which is very rarely the case. Thus, the necessary existence of banks as a trusted third party between the importer and the exporter involves costs that tend to discourage many enterprises from seizing the opportunities offered by international trade.

What we propose then is a concept that allows both parties to perform an operation via the mode of free transfer yet still maintain the advantages offered by the documentary credit. To do this, we plan to develop an application connected to Ethereum that integrates the procedural sequence specific to the documentary credit and replaces the banks as trusted third parties. Indeed, thanks to the Blockchain, it is quite possible to securely transport the documents inherent in an international trade operation, and especially to design smart contracts guaranteeing simultaneously the interests of the supplier and the buyer.

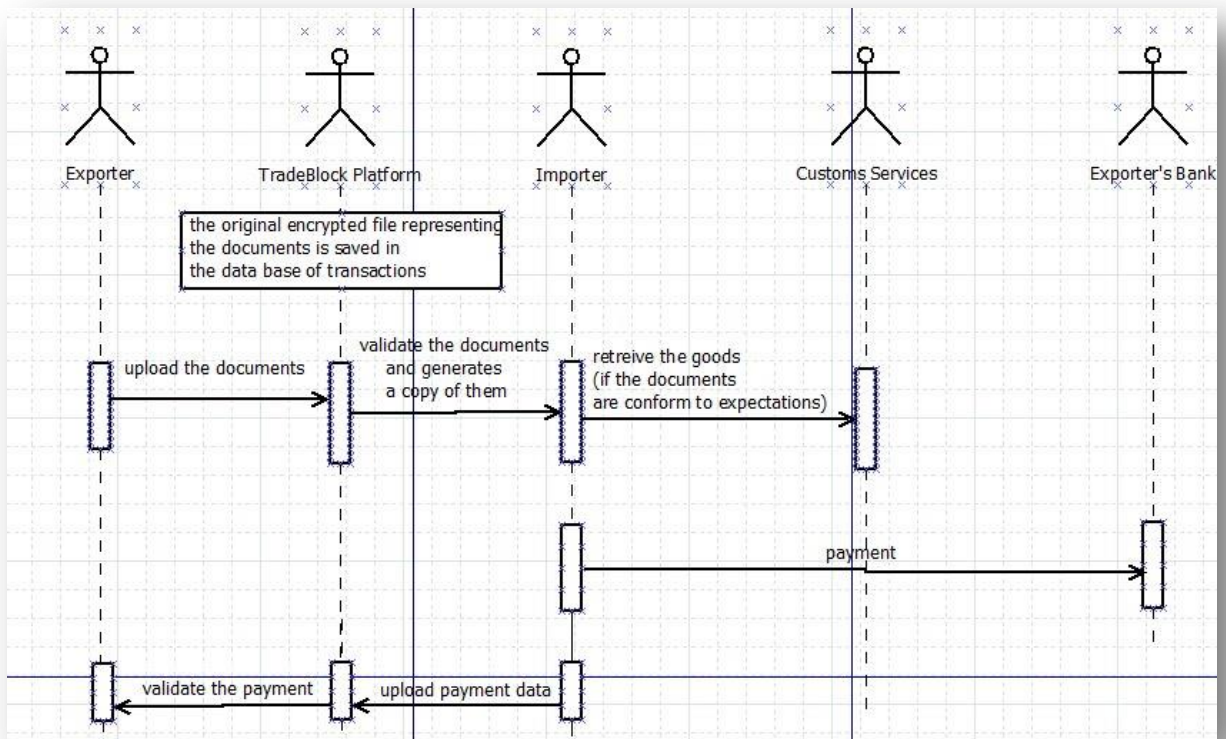
Ultimately, BlockTrade, our solution, will allow more companies to gain access to international trade, which will help smaller exporters as well as smaller importers to find more opportunities (sales) and more products / Services available (purchases).

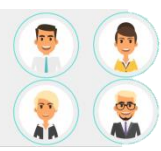


## BlockTrade

First, the importer uploads his documents in BlockTrade . Thus, a copy is directly generated by the platform, while the original is stored in the database of transactions. The copy is then watermarked 'not exploitable in customs' on each document, which allows the importer to check the documents without processing its clearance.

If the documents are correct and complete, the importer will proceed the transfer and will in return upload on the application the proof of this transfer. The exporter can thus verify and validate the transfer. As soon as the transfer is validated, the original documents become accessible to the importer.





## Extensions to consider in the medium and long term

In the longer term, we could use a virtual currency, using the principle of cryptography, to ensure the secure and transparent payment of transactions in international trade.

We could also consider an ecosystem that will integrate the Bank's intervention in order to provide security and additional financing to companies with limited financial capacities.

Finally, this ecosystem could also include the customs environment, thus providing the execution of all the processes that the customs function can offer. Thanks to better handling of goods flows, this functionality will allow to fulfill the customs formalities linked to the flow of goods and to anticipate the tax, administrative and security impacts. It could also take into account regulatory developments in international trade.



## Sustainability, benefits and impacts of our solution

- Secure the transactions with the importers / exporters either if it's a small or large business.
- Optimize processing fees and processing time.
- Increase the visibility of the business.
- Create new opportunities around the world.
- Promote local businesses beyond the borders.

The sustainability of the solution is based on the volume effect: unlike a banking institution, due to its size, it is possible to apply low commissions without jeopardizing the existence and growth of the company. Of course the benefits must be sufficient in number and remain regular. And it is precisely this difference in pricing that guarantees large volumes of business and constant maturity (Like Uber).



## Solution's implementation

The idea is to build a decentralized application (DApps) using the Blockchain Ethereum Platform.

In this case, we will disrupt data centers and the classic ways to deploy applications: as node of this global network, we will participate in the execution of the apps running on it. With this architectural design, we will avoid using server application to run our code.

Our smart contract will be deployed on the Ethereum Platform and will automatically run when the conditions are fulfilled (reception of merchandise that responds to all the criterions).

As a language we can use Solidify, which is an object oriented language designed for writing contract in Ethereum. As an integrated development environment (IDE), we can use Mix, which supports a Solidify.





## To summarize

- **OUR TARGET** : SMEs and VSEs that are or may be involved in international and foreign trade.
- **Business need** : Cross the limit of entry barriers due to costs and delays which are involved by the bank domiciliation of import operations (in particular via documentary credit).
- **Our solution** : BlockTrade, an application connected to the Ethereum platform allowing to remove barriers of costs and delays while guaranteeing the conditions of confidence offered by the direct debit :
  - Costs : fees much lower than those charged by banks ;
  - Delays : time saved by smart contracts on the Blockchain ;
  - Conditions of confidence : properties of reliability and security characterizing Ethereum.
- **Possible extensions** : settlement in cryptocurrency, interfacing with banking services of credit of mobilization of receivables, connections with the customs environments.