Blockchain for Maritime Ports in Denmark

BLING mid-term conference

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European Regional Development Fund EUROPEAN UNION



Let's introduce ourselves

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Our goal for BLING is to investigate the feasibility of blockchain technology within maritime port logistics and supply chain.







Maritime industry

 Maritime industry is complex logistic environment of numerous of parties with interactions between each other

- 2. Issues that global supply chain faces:
- Slow and outdated ways of handling documents
- Complexity of tracking and work the disputes
- Low availability of analytics and digitalized data management







Blockchain for maritime industry

What blockchain can give to the industry?

- It can connect actors through information technology platforms and store data without thirds parties;
- It can speed-up the existing network of maritime actors with automation and internal algorithms.







Diversity of blockchain scenarios

We made an overview of blockchain initiatives in maritime sector and logistics

Document workflow management:	Financial processes:	Device connectivity:
Projects that shift document exchange and communication to digital format	Projects that speed-up payments between the cargo sender and receiver	Projects that improve control at the port area and make the whole supply chain traceable
(e.g. TradeLens, ROboB)	(e.g. 300 Cubits TEU, Cargoledger)	(e.g. T-Mining, Portchain)

There is a potential to optimize logistics industry and situation at the port





Previous attempts prior blockchain



A combination of the best practices from both approaches can be the key for industry adoption



Conclusion three: Governance is the key

Within maritime ports in Denmark, the following is uncertain:

- Low level of digitalization
- Poor communication between port actors
- IT and data collection are not prioritized

Technology is not the barrier.

Barrier is within organization and communication issues. Technology will not see the light before these are solved. So how can we overcome these?





Read more

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1. Journal article in blockchain special issue:

Tsiulin, S., Reinau, K. H., Hilmola, O-P., Goryaev, N.K., Mostafa, A. K. A. (2020) Blockchain in Maritime Port Management: Defining Key Conceptual Framework. Special issue: "Blockchain and the Multinational Enterprise", Review of International Business and Strategy

2. Article at the conference in supply chain industry:

Tsiulin, S., Reinau, K.H. (2020) The Role of Port Authority in New Blockchain Scenarios for Maritime Port Management: The Case of Denmark. Transportation Research Procedia. Proceedings of 23rd EURO Working Group on Transportation Meeting, EWGT 2020, Paphos, Cyprus

3. Article at the conference in innovations and IoT:

Tsiulin, S., Reinau, K.H., N. Goryaev (2020) Conceptual Comparison of Port Community System and Blockchain Scenario for Maritime Document Handling. GloSIC 2020 conference (Global Smart Industry), South Ural State University

