Digitalization & decarbonization for transformation Proposal for fund
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Digitalization & decarbonization demand innovative collaboration for transformation across the entire maritime sector.
I. Research problem:
   i. Digital transaction (paperless, operations, management)
   ii. Facilitate the transformation to clean green/ bio fuels

II. The importance of the project:
   By using blockchain
   i. Showing a trustable way for eliminating the use of paper is, first and foremost, an important factor for environmental sustainability. It also minimizes the printing and storage costs of paper documents. Operationally, the digital transformation improves efficiency and reduces costs in the following ways:
      ➢ Error reduction thanks to process automation.
      ➢ Reduced processing times.
      ➢ Increased security, confidentiality of business operations and environmental sustainability
   ii. The point is however, that large-scale decarbonization approaches mostly relying on the promotion of innovative technologies (typically within competitive market settings) entail a progressive resources commodification, with problematic extraction ontologies that take ownership of what is understood to be local. They are based on a more active involvement of people and on a high variety of social imaginaries concerning how decarbonization could be achieved The maritime industry must take immediate collective decarbonization action on an unprecedented scale to bring us closer to the Paris 1.5°C trajectory, including:
      ➢ Reducing emissions by 45% in 2030 compared with 2010.
      ➢ Limiting the fossil fuel consumption.
      ➢ Reaching net zero by 2050
      ➢ Improving efficiency by just 8% - or 1% per year until 2030 could save ~1 EJ of energy, equivalent to 24 million tonnes of fuel oil and 0.1 GtCO2eq of greenhouse gas (GHG) emissions.
The focus should be on the initiatives that have the greatest impact and require the lowest effort.

**Prioritization Matrix**

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<th>Impact</th>
<th>Effort</th>
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<tbody>
<tr>
<td>High</td>
<td>High</td>
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<tr>
<td>Low</td>
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- **Longer term initiatives** (Big data, decarbonization)
- **Initiatives to be prioritized** (Digital ops, analytics, decarbonization, edge intelligence, condition monitoring)
- **Unattractive initiatives** (Expensive sensors, additional intensive installations)
- **Low value initiatives** (solutions based on noon report, Dashboarding)
III. Services provided:

Digital transaction as:-
- Applications of EDI (Electronic Data Interchange) Solutions
- Virtual platform for clean green & biofuels

IV. Solution methods:

i. Digital transactions
- **Automated, integrated systems.** EDI automates the generation, delivery, and traceability of electronic transactions. Orders, shipping notes, invoices, inventory reports, price catalogs, and other documents are processed without human intervention.
- **Electronic invoicing.** E-Invoicing is a key part of the digital transformation of businesses. It has expanded globally due to government regulations mandating e-invoicing between private companies and public administrations (B2G). However, given the multitude of operational benefits it supposes (efficiency, cost reduction, process automation, error elimination, time savings), e-invoicing is also used in B2B operations. Increasingly, large companies are requiring it of their suppliers.
- **Fiscal and tax compliance.** Public administrations worldwide require businesses to declare certain financial documents electronically. EDI solutions automate the generation of these documents and their declaration to the relevant authorities. This process allows firms to comply with the ever-changing requirements without heavily impacting their business operations.

ii. Facilitate and co-create new vocabularies and ontologies that better reflect current theory and practices by engaging with different actors. For example, work with energy communities and digital innovation with regard to energy governance, or communally deconstruct narratives toward awareness of, or liberation from, the assumptions they embed. The fast start-up and inherent flexibility of clean & biofuels-cycle
Clean fuels are expected to play a vital role in the energy transition. We adapt to new realities and seize emerging opportunities. But decarbonization takes time. It’s not an overnight shift. We are pragmatic and thorough. Our approach is holistic and step by step. Made from renewable sources.

Clean fuels offer up to a 100% reduction of CO2 emissions. Clean fuels come in various forms: hydrogen; hydrogen derivatives such as e-methanol, e-methane, and e-ammonia; and biofuels like bioethanol, biogas and biodiesel. They are typically derived from water and renewable energy, natural gas with carbon capture and storage, or organic matter, such as plants, timber, and agricultural and food waste.

upgrade and modernize wherever possible. The transition away from conventional fuels comes next.

V. Benefit for stockholders, Companies and investors

i.

Cost savings: With digital processes, the costs of printing, mailing, filing, and certification (and related personnel) are eliminated.

Time savings: the savings in time achieved when transitioning from analog to digital also have a financial impact. Mind you: the time savings are not only on the company side, but also on the customer side…and this is crucial for brand reputation, customer experience, and loyalty aspects.

Increased security: risks—related to the storage of physical documents, to loss or damage during transfers, of counterfeiting, and those related to data leakage or loss—in general are lowered. Everything always remains perfectly traceable, retrievable, and verifiable, quickly and intuitively.
in 2021, the global Digital Transaction Management market was valued at $8.04 billion. It is estimated to grow from 2022 to 2030 at an average annual rate (CAGR) of 25.5% (source: grandviewresearch.com).

ii.

1. Members of IMO need to reach consensus on ambitious absolute emission targets to reduce global GHG emissions from a well-to-wake perspective and reach net zero by 2050, aligning with 1.5°C trajectory.
2. These targets must be accompanied by supplementary emissions intensity and efficiency targets, intermediate targets for 2025 and 2045, GHG pricing, and transparent emission reporting.
3. The IMO must fast-track the development of international rules Reward shipowners that show commitment to reach net zero by 2050, and those with ambition to do it earlier.
4. The IMO will fast-track the development of international rules and standards supporting alternative fuels and decarbonization technologies.
5. Request reporting of current and short-term adoption of interim emissions reduction targets consistent with long term goals – both covering fuel pathways and energy efficiency measures
6. Advocate for stronger abatement policies in IMO
7. Encourage provision of cargo-level emissions data for customers
8. Support the development of alternative fuel infrastructure developments and engage in green corridors
9. These targets must be accompanied by supplementary emissions intensity and efficiency targets, intermediate targets for 2030 and 2040, GHG pricing, and transparent emission reporting.
10. The IMO must fast-track the development of international rules and standards supporting alternative fuels and decarbonization technologies.
11. Shipowners should set ambitious targets, be transparent, and use clear, comparable ESG reporting.
Regional, national, and local policymakers must develop roadmaps encouraging dedicated investments in green energy and fuel infrastructure for the maritime industry transition and innovation capacity to build these facilities.

Thank you
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