Update on the work of the IMO-GloMEEP
Global Industry Alliance to Support Low Carbon Shipping

15 October 2018, IMO HQ
Presentation overview

- Objectives - Global Industry Alliance to Support Low Carbon Shipping (GIA)
- Overview on-going GIA projects
- GIA project on “Just-In-Time Operation of Ships”
- Next steps
Objective of GIA – finding solutions for low carbon shipping

- Support tackling existing barriers towards decarbonizing the shipping sector
- Through implementation of selected projects (within scope of 5 priority areas)

- Initiate pilot projects, promote R & D
- Initiate industry fora and information exchange activities
- Showcase positive initiatives by maritime sector
- Develop capacity-building tools

Energy efficiency technologies and operational best practices
Low- and zero-carbon fuels
Digitalization
Human element
Ports
Current membership of 16 companies:
GIA members contribute financially and with expertise

- Technical expertise / data provided in-kind (GIA Task Force)
- Financial capital through a yearly membership fee (GIA Fund)
- GIA Fund: provides necessary financial resources for implementation of selected projects

GloMEEP Project Coordination Unit:
- Serves as Secretariat for the GIA
There are five on-going projects

<table>
<thead>
<tr>
<th>No</th>
<th>Activity Title</th>
<th>Progress/Status</th>
</tr>
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</table>
| 1  | Development of E-learning course on the energy-efficient operation of ships (for seafarers and onshore personnel) | • Videotel KVH contracted  
• E-learning course under development |
| 2  | Development of a Protocol for validation of performance of energy efficiency technologies | • Industry Roundtable held (12 July 2018)  
• White Paper on fuel performance monitoring  
• Tendering procedure initiated by GIA Secretariat |
| 3  | Development of guide on alternative fuels their potential for shipping and barriers to uptake with a timeline to 2050 | • Discussions initiated within the GIA TF |
| 4  | Idea generation workshops - Workshops to facilitate brainstorming and idea generation for effective collaboration | • First workshop held (30 May 2018) |
| 5  | Development of study on Just-In-Time Operation of ships - solutions for different shipping sectors | • Industry Roundtable held (29 June 2018)  
• Tendering procedure initiated by GIA Secretariat |

Full update on GIA’s work: MEPC 73/13/4
GIA project 5 - Just In Time Operation of Ships
Ships spend time waiting at anchorage

- In-kind contribution of data and analysis by MarineTraffic
- Data timeframe: 1/7/2017 – 15/7/2018
- Waiting time at anchorage for all ships > 999 GT

<table>
<thead>
<tr>
<th>Type</th>
<th>Waiting Time</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container</td>
<td>4.96%</td>
<td></td>
</tr>
<tr>
<td>Dry Bulk</td>
<td>8.42%</td>
<td></td>
</tr>
<tr>
<td>Wet Bulk</td>
<td>10.34%</td>
<td></td>
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</tbody>
</table>
What is Just In Time (JIT) Operation of Ships?

JIT = maintain most efficient ship operating speed to arrive at Pilot Boarding Place when availability is ensured of:

- Berth
- Fairway
- Nautical services (pilots, tugs, linemen)
To watch the video, please visit:
https://youtu.be/ioUpqZUNSlg
Work started with a roundtable discussion with all stakeholders

Main topics:

- Advantages and disadvantages?
- Why is JIT not common practice?
- How can we support overcoming barriers?

Outcome of roundtable (29 June 2018): https://glomeep.imo.org/global-industry-alliance/gia-resources/
Advantages / disadvantages
Advantages - JIT can significantly reduce emissions

Absolute emissions reduction:

- Per voyage
- At anchorage due to reduced waiting time (at anchor ships still use auxiliary engines and boilers)
Additional advantages:

- **Personal safety** (Improved rest hour planning of crew on-board, as per MLC)
- **Navigation safety** (Reduced traffic/risk of collision close to port entrance)
- **Ports** (Better capacity planning of nautical services and berths)
- **Shippers** (Enhanced supply chain visibility)
Disadvantages of JIT

- Challenging to organize – as involves alignment of many stakeholders
- Possible lost time for maintenance work on ship or other in-port activities while waiting for berth
- Speed to arrive JIT may be in conflict with critical speed of main engine or minimum load for shaft generator / exhaust gas boiler
Why is JIT not common practice?
# Identification of barriers

## Port Call Optimization

Lower costs, cleaner environment, more reliability and safety for shipping, terminals and ports.

<table>
<thead>
<tr>
<th>Port Call Process</th>
<th>Cargo contract</th>
<th>Vessel contract</th>
<th>Cargo contract timeline</th>
<th>Terminal contract timeline</th>
<th>Departure Passage planning to port A</th>
<th>Port planning arrival</th>
<th>Arrival</th>
<th>Vessel / Cargo services planning</th>
<th>Port planning departures</th>
<th>Departure Passage planning to port A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cargo transit (bulk, container)</td>
<td>Contract cargo (12 weeks) 0 months</td>
<td>Contract cargo (12 weeks) 0 months</td>
<td>Contact terminal (12 weeks) 0 months</td>
<td>Contact vessel (12 weeks) 0 months</td>
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Contractual barriers

- Today about 70% of all bulk carriers and tankers are contractually prohibited to reduce speed.
- Berthing windows may contain commercially sensitive data.

- Today 100% of all container ships can reduce speed contractually.
- Berthing windows do not contain commercially sensitive data.
Operational barriers

General
- Great number of stakeholders involved
- Lack of communication between service providers, ship, and port authorities
- Communication through ship agents can be delayed (e.g. overnight)

Port Authority
- Current port regulations do not always allow ships to update departure times to port authorities directly (this causes delay in updates)
- Current VTS systems do not allow to inform ship outside VHF range (30 nM range) on arrival window (again delay in updates)
Operational barriers

Nautical services
- Pilots/ tugs are globally organized in different ways

Vessel services
- No updates of e.g. bunker barges or waste collectors when they will arrive or when they will complete their service
Preliminary conclusions

- JIT - great potential to globally reduce GHG emissions from shipping
- Additional advantages: navigation safety, crew rest hours, financial, etc.
- However, existing barriers need to be overcome!

<table>
<thead>
<tr>
<th>Contractually</th>
<th>Operationally</th>
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<tbody>
<tr>
<td>JIT can start today regarding contracts</td>
<td>JIT must be improved re. communication – even where shipping companies are terminal owners (often separate business units)</td>
</tr>
<tr>
<td>More experience is needed in invoking contractual JIT clauses</td>
<td>Early and frequent updates of departure time → early and frequent updates of arrival time</td>
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How can the GIA support overcoming barriers?
Solutions already exist!
Reduction potential from real-time updates
A 12 hours window can already reduce emissions
Preliminary assessment - Example: Port of Rotterdam

<table>
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<tr>
<th>SHIP (CONTAINER ONLY)</th>
<th>PORT (ALL SHIPS)</th>
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</thead>
<tbody>
<tr>
<td>CO₂ reduction due to speed reduction last 12 hrs</td>
<td>CO₂ reduction at anchorage due to 12 hours less anchor time</td>
</tr>
<tr>
<td>4% ↓</td>
<td>35% ↓</td>
</tr>
<tr>
<td>134,000 tonnes /year</td>
<td>188,000 tonnes /year</td>
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Data: Port of Rotterdam (2017-2018). Analysis:
Next steps for GIA

- Gather experience from ports that (not) successfully implemented JIT
- Analyze/categorize barriers (both general and trade specific)
- Study concrete measures (including incentives) for removal of contractual/operational barriers to large-scale uptake of JIT:
  - short-term measures (implemented between today and by 2023), and
  - mid-term measures (implemented between 2023 and 2030);
- Call for tender: [http://www.imo.org/en/About/Procurement/Pages/default.aspx](http://www.imo.org/en/About/Procurement/Pages/default.aspx)
- Report outcome to MEPC
Thank you for your attention!
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