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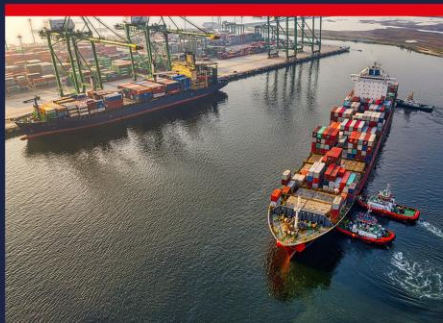
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# TPFREP Terminal Performance Reporting

77<sup>th</sup> SMDG Meeting in Singapore – Michael Schröder



# TPFREP Terminal Performance Reporting Message



## In this presentation

- Introduction of TPFREP Message
- New version TPFREP 4.1 - Summary of changes
- Vessel Timesheet – Standard Definitions
- TPFREP via Excel – Proposal to standardize it
- TPFREP Community – Best Practice  
Promote → **SLACK tool**



# Information in the TPFREP – Terminal Performance Report



Implemented by

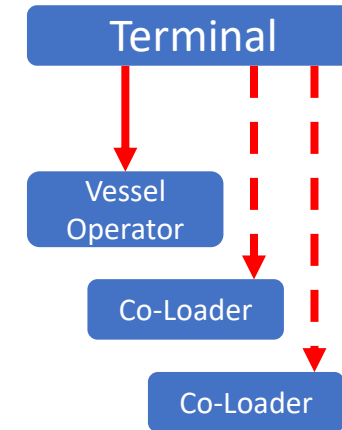


# TPFREP Purpose

- It is sent from the Terminal to each Container Operator after vessel departure from a port.
- Purpose is to transmit terminal productivity data and equipment movement summary, related to the complete vessel.
- The message contains following information items:
  - Vessel timesheet
  - Crane timesheets  
Crane Delays and delay reasons
  - Number of Moves per Crane
  - Number of boxes load / discharge / restow broken down by Container operator, full/MT, 20'/40'
  - Number of hatch cover moves
- Based on this information the gross / net productivity by vessel and by crane can be calculated.

■ TPFREP Versions:

Message Format	SMDG Version	Directory	Release Month
TPFREP	3.0	D.00B	02/2001
TPFREP	4.0	D.11B	10/2012
TPFREP	4.1	D.18A	05/2021



# TPFREP Benefits



## Benefits for the Terminal

- Provide only one standard message to all container operators, versus many individual formats as before.
- To create and send the message electronically saves time and money compared to creating individual reports manually and sending by email.
- For contract negotiations, both partners have the same data source available.

## Benefits for the Shipping Line

- All TDR in a central database allows structured analyses, e.g. over time series
- Consistency, easy to compare different terminals
- Save manual workload for Port Ops
- Timeliness
- Accuracy



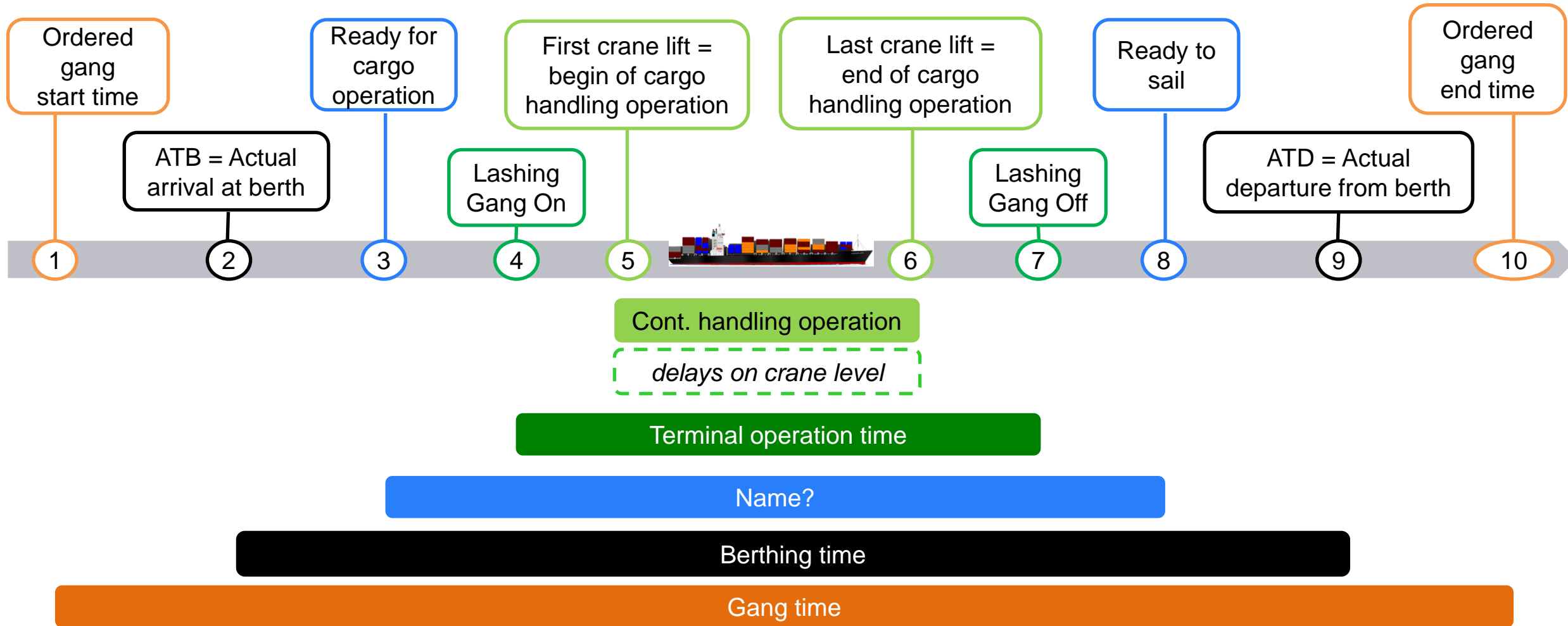
# TPFREP 4.1 Summary of Changes



TPFREP version 4.1 was published in May 2021, including change requests that were collected over several years since the previous version

	Requirement	Description
1	Identify TPFREP Light	Differentiate Full TPFREP versus Partial/Light TPFREP. Full (as default) means that the TPFREP message contains all container moves from all container operators. Partial means that the message contains only the volumes for one container operator
2	BGM function codes	Allow only: 1=Cancellation and 5=Replace and 9=Original Note: Industry standard is to use 9=Original only, where a new message will override a previous message completely
3	Vessel Timesheet new Timestamps added	New codes added for <i>Ordered gang start time / Ordered gang end time</i> <i>Vessel ready for cargo operation / Vessel ready to sail (see picture on next page)</i>
4	Landside power supply	Reporting of power supply start and end date+time and amount of power (kWh) provided by the terminal is now possible
5	Crane hours in overtime	Reporting of crane hours in overtime and amount of moves in overtime now possible. Note: Overtime means working hours that entail a surcharge, for example at night or at weekend.
6	Reporting of Gear Boxes	Reporting additional crane moves for gear boxes (synonyms: Twistlock Boxes / Gear Bins / Lashing Material) is now possible.
7	Container categories: DG, OOG and Reefer	Reporting of any combination of Standard, Reefer, OOG, DG containers, is now possible
8	Generic container size type	Align aggregated container size-type reporting with SMDG standard: Replace "20FT" by "2%%%" and "40FT" by "4%%%" etc in the implementation guide
9	Type of Move for Cabotage	Two new qualifiers CTD and CTL added to allow reporting of special combinations of transshipment and cabotage
10	Delay Reasons	SMDG Delay Reason Code List now used, instead of fixed values as before
11	Restow Reporting	Improved documentation of move count reporting for Terminal Convenience restow / Common restow / normal restow

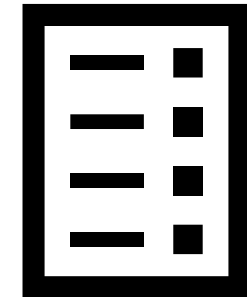
# TPFREP 4.1 allows reporting of these timestamps (alignment with DCSA JIT timestamps)



# Wishlist for next version TPFREP 4.2

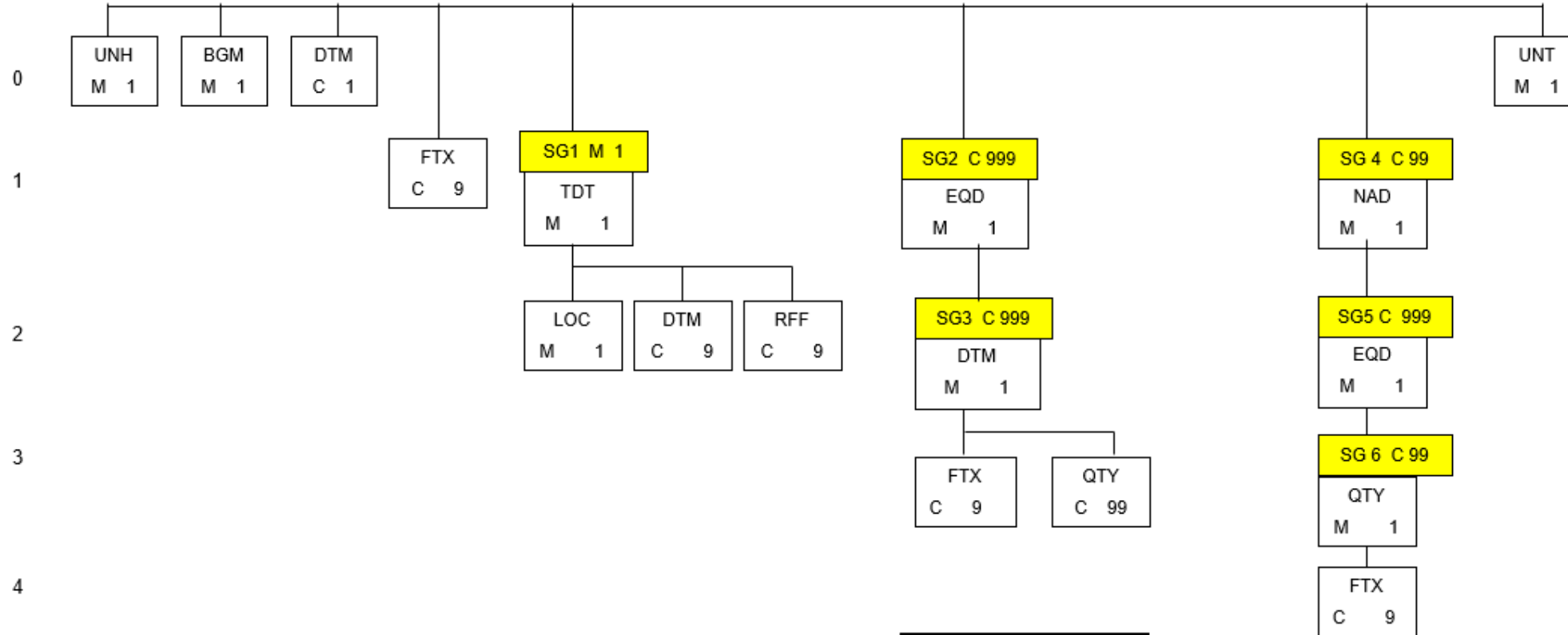


- 1. Reporting of shortshipped containers with reason for non-loading**  
→ questionable whether TPFREP is the right solution because level of detail needed would be on single container, and TPFREP reporting could be too late
- 2. Reporting of Twin Lift**  
To do: determine requirements for way of reporting and counting (from HHLA + Eurogate Hamburg)
- 3. Reporting on Dual Action Crane Operations**  
Meaning to load and discharge with one single crane move.
- 4.** For dual-move and for twin lift, report also vessel stow provision, meaning how well was the vessel stow prepared to support (ECT Rotterdam)





# TPFREP 4.1 based on D.18 B repository



SG1  
Vessel  
Timesheet

SG2  
Crane Timesheet  
and no. of  
container moves  
per crane

SG4  
No. of moves per  
container  
operator

# TPFREP Message – SMDG working Group



## Work Group Members

1. Michael Schröder (chair)
2. Ori Ben-Shimon (ZIM)
3. Sönke Witt (HHLA)
4. Arthur Touzot (ex SMDG)
5. Marc Jordens, Mark Lim (Hamburg Süd)
6. Boudewijn de Kievit (ECT Rotterdam)
7. Patrick Straka (MSK)
8. Wendy Jamarillo (APMT)
9. Jeroen Muis (Copas)
10. Emmanuel Odartey (TEC, Ghana)



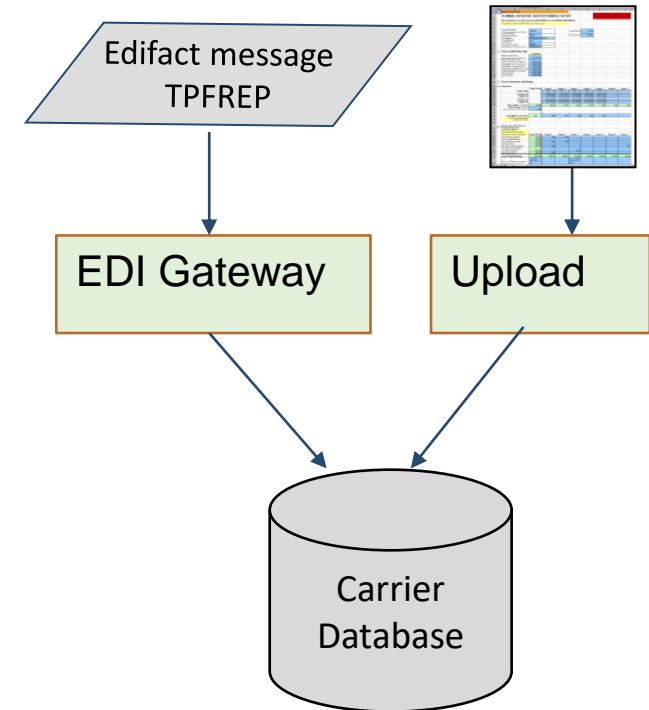
# TPFREP via Excel – standardize it ?



- Worldwide roughly 100 terminals reporting via EDI and 300 via Excel or individual format
- Carriers are using standard Excel template – but each carrier has a slightly different format. Two examples below.
- Should the SMDG workgroup aim to harmonize the templates and publish a standard Excel Template? ➔ Open for discussion!  
Note: Also terminals that are already providing EDI are interested in a standard Excel to send to those carriers who cannot yet receive EDI.

EDI

Excel



**TERMINAL DEPARTURE AND PERFORMANCE REPORT**

This spreadsheet is an excel version of the EDI EDIFACT message TPFREP 0 008 0004 0 0

**1 Port and Berthing Time**

Port	Time	Reason	Mark

**1.1 Vessel Timesheet**

Phase	Start Time	End Time	Reason
Planned Arrival Time			
Planned Departure Time			
Actual Arrival Time			
Actual Departure Time			
Call to Berth			
Crane Gangs ON			
Crane Gangs OFF			
First Crane Lift			
Last Crane Lift			

**1.2 General Delays / Remarks**

Duration	Reason Code	Reason

**2 Crane Timesheet and Delays**

Crane ID	Crane Type	Completed	Completed	Completed	Completed	Completed	Completed	Completed	Completed	Completed	Completed



**TERMINAL DEPARTURE AND PERFORMANCE REPORT**

This spreadsheet is an excel version of the EDI EDIFACT message TPFREP 0 008 0004 0 0

**Vessel Information**

Vessel IMO number	920876	Voyage # (incl. PUS)	F1026
Vessel Call Sign	3CQ33	Voyage # (incl. F1026)	
Vessel Name	FRIBEL		
Terminal Code (for port terminal agreement)	DFEEL03		
Vessel Operator (IMO Code)	036		

**1 Port and Berthing Time**

Phase	Start Time	End Time	Reason
Planned Arrival Time	20.01.15 17:42		
Planned Departure Time	20.01.15 18:18		
Actual Arrival Time	20.01.15 17:42		
Actual Departure Time	20.01.15 18:18		
Call to Berth	20.01.15 17:42		
Crane Gangs ON	20.01.15 18:00		
Crane Gangs OFF	20.01.15 18:30		
First Crane Lift	20.01.15 18:00		
Last Crane Lift	20.01.15 18:30		

**1.2 General Delays / Remarks**

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**2 Crane Timesheet and Delays**

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# TPFREP Community – Best Practice – use the SLACK tool !



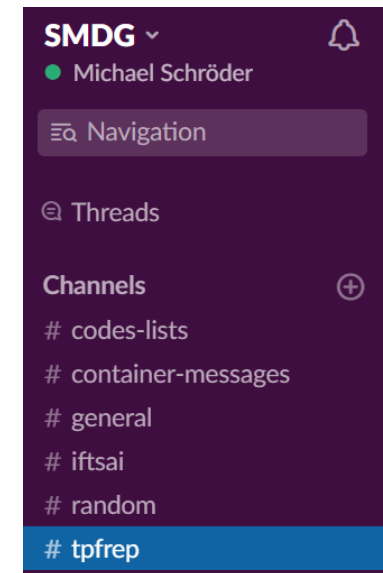
- When implementing TPFREP, carriers and terminals often come across similar questions or issues in different parts of the world.  
Why not learn from each other and exchange solutions for typical questions.  
This could even be an input for new standard versions.



- SMDG has introduced a SLACK channel **#tpfrep** :

<https://smdgworkspace.slack.com>

- What - Use SLACK as the collaboration tool for our TPFREP User Community!  
Exchange best practices and experiences.
- Why – Reach all interested parties with one post or question. Save lengthy emails.  
Keep all Q&A in one place accessible.
- Who – All Carriers, Terminals and other interested parties are welcome.
- How – simply register on the Slack channel !



The shipping industry doubles every 15 years...

But the infrastructure does not

The efficiency of the infrastructure needs to improve.

Precondition is that the efficiency can be measured.

# Terminal Performance Metrics

## Proposal for standardization



- In a new initiative, DCSA is suggesting to develop standardized metrics for Terminal Performance
- The idea was just briefly presented, not yet elaborated
- What could that mean? Some ideas from an SMDG draft, example:

### (2) Cargo Operation Time in Hours and Minutes

#### Definition:

The cargo operation time is the **time difference** between **first crane first lift (3)** and **last crane last lift (4)**

### (6) Gross Working Time per Vessel in Hours and Minutes

#### Definition:

The gross working time per vessel is the **sum of all gross working times per crane (5)**

### (7) Average Number of Cranes per Hour

#### Definition:

The average number of cranes is calculated as **gross working time per vessel (6)** divided by the **cargo operation time (2)**

The TPFREP message provides the base data, from which the Terminal Performance can be calculated

# Terminal Performance Metrics



Slide from the **DCSA**

## Terminal Performance Metrics – Is there a problem to solve?



TPFREP 4.0 is the preferred EDI standard for carriers, but the session's focus is not on it since DCSA prioritizes APIs. Instead, the session will discuss whether standardizing metrics is necessary and a possible path forward.

Terminal performance metrics help shipping lines assess how well the terminal operators are performing.

**Terminal Performance Metrics usually includes KPI data like** vessel turnaround time, container handling rate, terminal utilization, containers handled, employee hours, and major operational disruptions.

Terminal performance metrics format **may vary depending on stakeholders' needs** and available data. It can be a written report, spreadsheet, or dashboard, with charts and tables to aid comprehension.

The key is that the **terminal performance metrics provide a clear and concise picture of the terminal's performance**, enabling stakeholders to make informed decisions about the terminal's operations.

There are a few potential issues with Terminal Performance Metrics in the container shipping industry:

- 01 Data standardization:** Different terminals operator may use different KPIs or methodologies to measure performance, making it difficult to compare performance.
- 02 Data accuracy:** The data used in metrics is only as accurate as the data that is available and captured. Data collection system robustness is key.
- 03 Data availability:** Limited resources or technology can lead to inconsistent data availability, hindering performance comparison.
- 04 Data interpretation:** Metrics **can be open to interpretation**, making it hard to determine the actual performance and identify areas of improvement.
- 05 Contractual agreements:** Influence the data report structure and partially explains the differences in place today.



Question to the audience:  
What is your opinion on developing standardized metrics for terminal performance?



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# Thank You

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Shin Shin Lung, Jost Müller, Robèrt Roestenburg, Michael Schröder, Julien Vangeon, Paul Wauters

Mark Lim,