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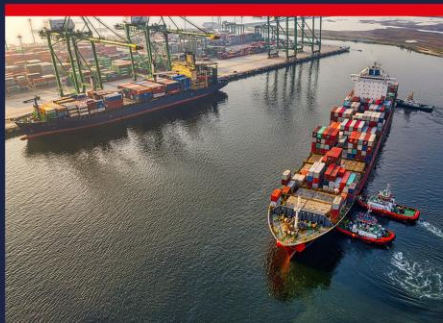
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TPFREP Terminal Performance Reporting

78th SMDG Meeting in Antwerp – 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
- **Terminal Performance Metrics**



Information in the TPFREP – Terminal Performance Report



Implemented by

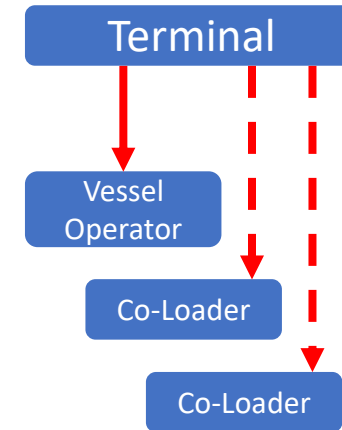


TPFREP Purpose

- 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



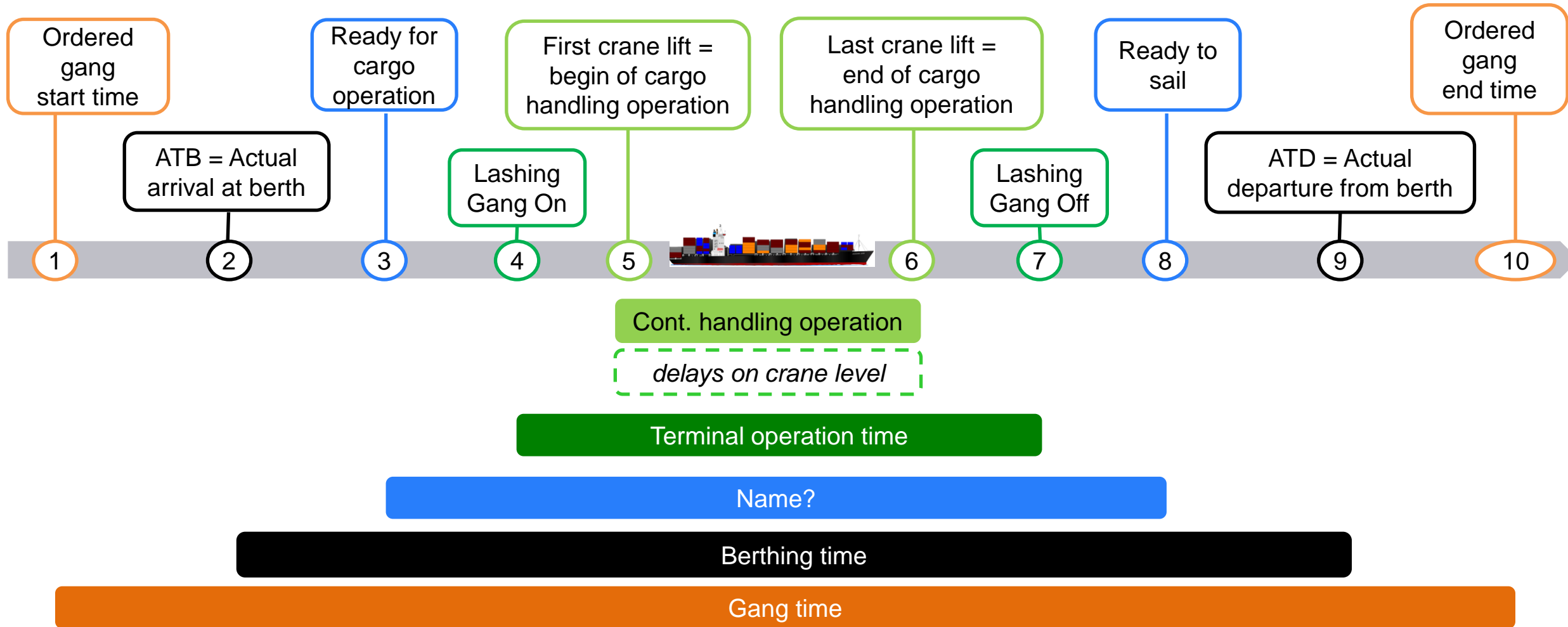
TPFREP 4.1 Summary of Changes



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 Twin Lift

To do: determine requirements for way of reporting and counting (from HHLA + Eurogate Hamburg)

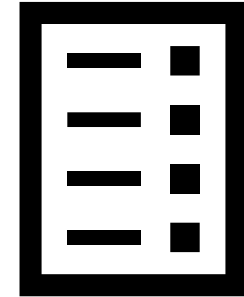
2. Reporting on Dual Action Crane Operations

Meaning to load and discharge with one single crane move.

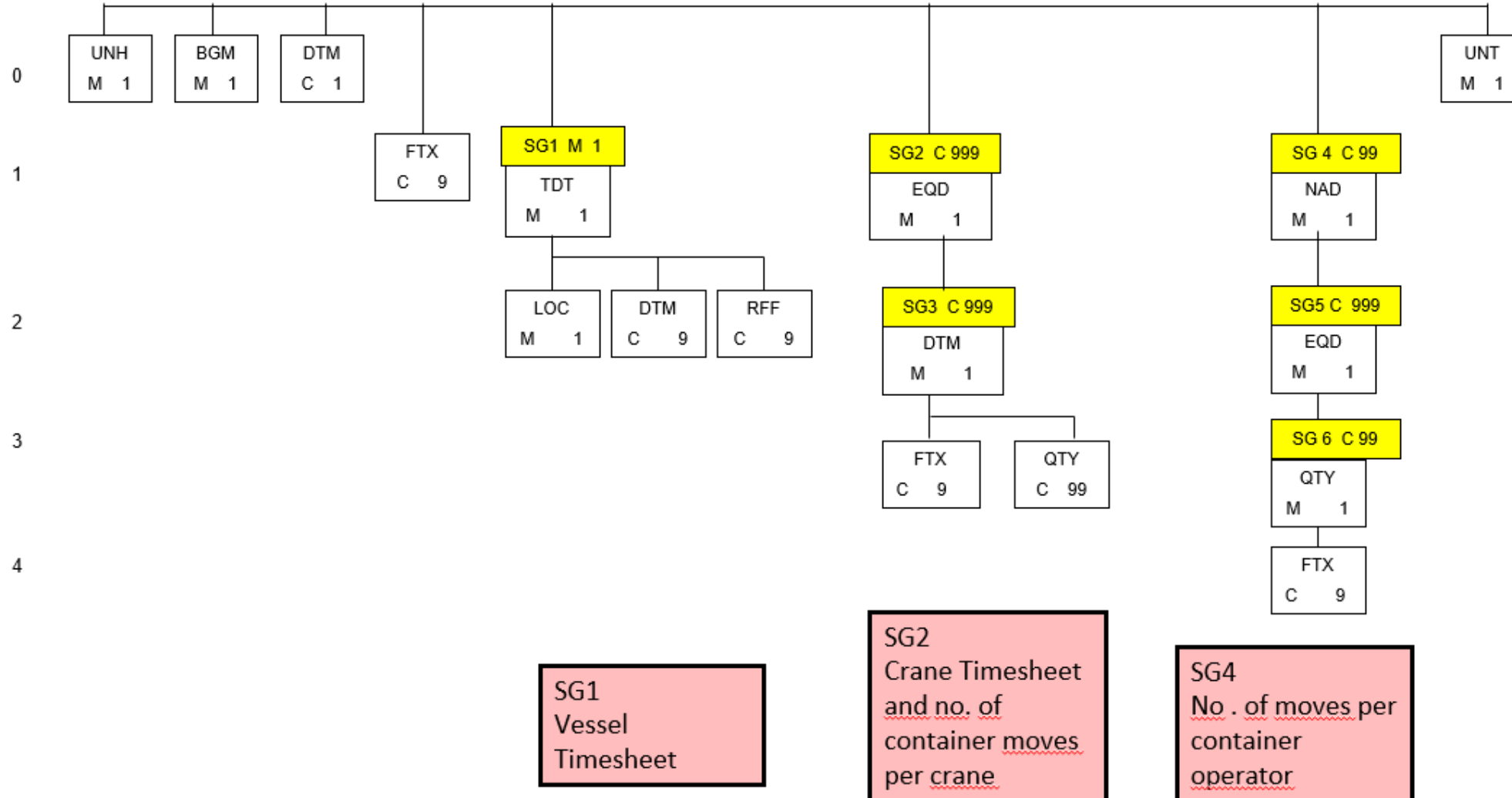
For dual-move and for twin lift, report also vessel stow provision, meaning how well was the vessel stow prepared to support (ECT Rotterdam)

3. 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



TPFREP 4.1 based on D.18 A repository



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. Emmanuel Odartey (TEC, Ghana)



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



- Different KPIs or methodologies to measure make it difficult to compare Terminal Performance.
→ Standardized metrics are required
- Terminal Performance Metrics should provide a clear and concise picture of the terminal's performance, enabling stakeholders to make informed decisions about the terminal operations
- What could that mean? The SMDG draft contains 19 KPIs, some examples:

(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

Question to the audience:

What is your opinion on developing standardized metrics for terminal performance?

Terminal Performance Metrics

Proposal for standardization



- (1) Berth Duration**
- (2) Cargo Operation Time**
- (3) First Crane Lift**
- (4) Last Crane Lift**
- (5) Gross Working Time per Crane**
- (6) Gross Working Time per Vessel**
- (7) Average Number of Cranes per Hour**
- (8) Total Delay Time per Crane**
- (9) Total Delay Time per Vessel**

- (10) Net Working Time per Crane**
- (11) Net Working Time per Vessel**
- (12) Total Container Moves per Crane**
- (13) Total Moves per Crane**
- (14) Total Container Moves**
- (15) Total Moves**
- (16) Crane Gross Moves per Hour**
- (17) Crane Net Moves per Hour**
- (18) Vessel Gross Moves per Hour**
- (19) Vessel Net Moves per Hour**



Michael Schröder
Project Manager e-Solutions
Hapag-Lloyd AG
Hamburg, Germany
Michael.Schroeder@smdg.org

Thank You

SMDG e.V.

Registered at Amtsgericht Pinneberg, Reg.-ID VR 2142 PI

Board members: Ann-Christin Fröhmkke (co-chair), Sönke Witt (co-chair), Heiko Meyer (treasurer), Jasmin Dröner,

Michael Schröder, Julien Vangeon, Paul Wauters

Mark Lim, Shin Shin Lung, Jost Müller, Robert Roestenburg,