

# Global Liner Performance March Report 2014



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# Global Liner Performance report – September 2013

## **Global Executive Summary**

Global schedule reliability decreased slightly from 69.5% in January to 68.4% in February. This is another new record low performance, and it is the third consecutive month that schedule reliability has declined. From November to February, global schedule reliability has declined with more than 12 percentage points. The level is also significantly below the levels we witnessed in both 2012 and 2013. Data from INTTRA shows that the timely delivery of containers decreased too. The performance declined by another 4.1 percentage points from January to February. Over the past three months the timeliness of container delivery has declined by more than 10 percentage points. Compared with the development in the same period in 2013, we see a container delivery performance which is 14.8 percentage points below that level.

Even though global schedule reliability declined again, we find that 11 out of the Top20 carriers managed to improve their performance from January to February. CMA CGM, Hamburg Süd and APL witnessed the largest increases, as their performance improved by 4.6, 3.9 and 2.4 percentage points, respectively. At the other end of the scale, we find that COSCO, Evergreen and Yang Ming have seen the largest decreases in performance, as their schedule reliability declined by 4.6, 6.3 and 6.8 percentage points, respectively. In February, Hamburg Süd and Maersk Line once again remain the most reliable carriers as they achieved a performance of 84% and 79.5%, respectively. CSAV is the third most reliable carrier in February, with a performance of 75.8%. Compared with last month's Top3 Hamburg Süd and Maersk Line have increased the distance between second and third spot.

## **Tradelane Summary**

The monthly changes in schedule reliability shows that 20 out of 32 trade lanes have seen a decrease in performance, whereas 10 trade lanes have witnessed a performance improvement, and two trade lanes have maintained the same level as in January.

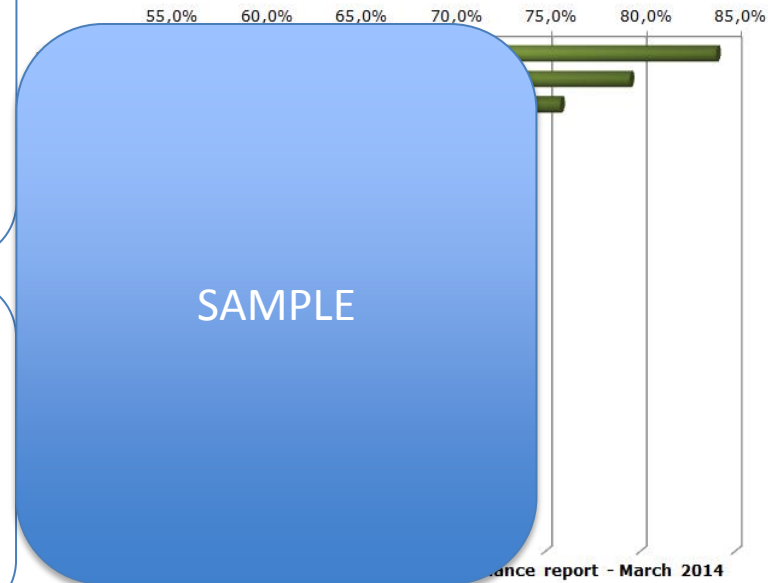
Reliability developments on the three large head haul trades from Asia have declined significantly, as the Transpacific Eastbound trade declined 8 percentage points, Asia to North Europe decreased 10 percentage points, and the Asia to Mediterranean trade decreased 6 percentage points.

## **Container Delivery Summary**

In February, 19 out of 32 trade lanes witnessed a decline in the timeliness of container delivery, compared with January, and at the same time, 13 trade lanes saw their performance improve.

The Transatlantic Eastbound trade lane witnessed the largest decrease, as container delivery declined by 10 percentage points, whereas the ECSA to Asia trade lane witnessed the largest improvement, as the performance increased by 7 percentage points from January to February.

**Global Top 20 carrier ranking - February 2014**



# Global Reliability Developments

## Global developments

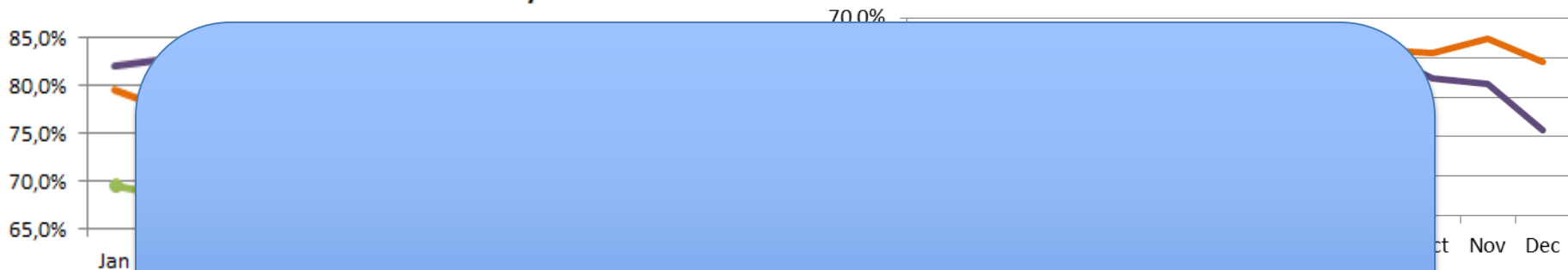
Global schedule reliability decreased slightly from 69.5% in January to 68.4% in February. This is another new record low performance, and it is the third consecutive month that schedule reliability has declined. From November to February, global schedule reliability has declined with more than 12 percentage points. The level is also significantly below the levels we witnessed in both 2012 and 2013.

Data from INTTRA shows that the timely delivery of containers decreased too. The performance declined by another 4.1 percentage points from January to February. Over the past three months the timeliness of container delivery has declined by more than 10 percentage points. Compared with the development in the same period in 2013, we see a container delivery performance which is 14.8 percentage points below that level.

The difference between the two measures remains above 20 percentage points on a global level.

**Global schedule reliability**

**Global timely container delivery**



Global	Nov	Dec
Schedule Reliability	61,0%	73,4%
Timely Container Delivery	61,7%	55,8%

Container data provided by INTTRA

# Top 20 carriers - Global performance

## Global developments

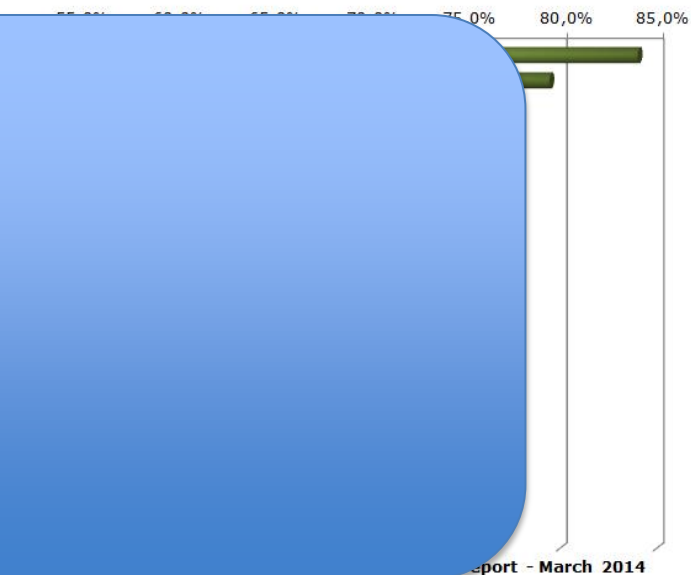
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In February, Hamburg Süd and Maersk Line once again remain the most reliable carriers as they achieved a performance of 84% and 79.5%, respectively. CSAV is the third most reliable carrier in February, with a performance of 75.8%. Compared with last month's Top3 Hamburg Süd and Maersk Line have increased the distance between second and third spot.

In the bottom of the Top 20 list we find Zim, MSC and NYK, with a schedule reliability performance of 57.5%, 60.7% and 61.5%, respectively.

Global Top 20 carrier ranking - February 2014

Top-20 carriers	2012-Q1	2013-Q1	2013-Q2	2013-Q3	2013-Q4	dec-13	jan-14	feb-14
APL	87,7%	86,2%	81,2%	82,2%	81,1%	75,2%	85,2%	82,2%
CMA CGM	80,9%	80,9%	80,9%	80,9%	80,9%	75,2%	85,2%	82,2%
COSCO	84,9%	84,9%	84,9%	84,9%	84,9%	75,2%	85,2%	82,2%
CSAV	77,3%	77,3%	77,3%	77,3%	77,3%	75,2%	85,2%	82,2%
CSCL	72,2%	72,2%	72,2%	72,2%	72,2%	75,2%	85,2%	82,2%
Evergreen	76,6%	76,6%	76,6%	76,6%	76,6%	75,2%	85,2%	82,2%
Hamburg Sud	88,2%	88,2%	88,2%	88,2%	88,2%	75,2%	85,2%	82,2%
Hanjin	83,0%	83,0%	83,0%	83,0%	83,0%	75,2%	85,2%	82,2%
Hapag Lloyd	78,3%	78,3%	78,3%	78,3%	78,3%	75,2%	85,2%	82,2%
HMM	86,1%	86,1%	86,1%	86,1%	86,1%	75,2%	85,2%	82,2%
K Line	80,5%	80,5%	80,5%	80,5%	80,5%	75,2%	85,2%	82,2%
Maersk Line	91,7%	91,7%	91,7%	91,7%	91,7%	75,2%	85,2%	82,2%
MOL	85,7%	85,7%	85,7%	85,7%	85,7%	75,2%	85,2%	82,2%
MSC	62,8%	62,8%	62,8%	62,8%	62,8%	75,2%	85,2%	82,2%
NYK	77,7%	77,7%	77,7%	77,7%	77,7%	75,2%	85,2%	82,2%
OOCL	77,8%	77,8%	77,8%	77,8%	77,8%	75,2%	85,2%	82,2%
PIL	72,2%	72,2%	72,2%	72,2%	72,2%	75,2%	85,2%	82,2%
UASC	77,0%	77,0%	77,0%	77,0%	77,0%	75,2%	85,2%	82,2%
Yang Ming	85,4%	85,4%	85,4%	85,4%	85,4%	75,2%	85,2%	82,2%
ZIM	74,9%	74,9%	74,9%	74,9%	74,9%	75,2%	85,2%	82,2%



# Niche carriers global performance

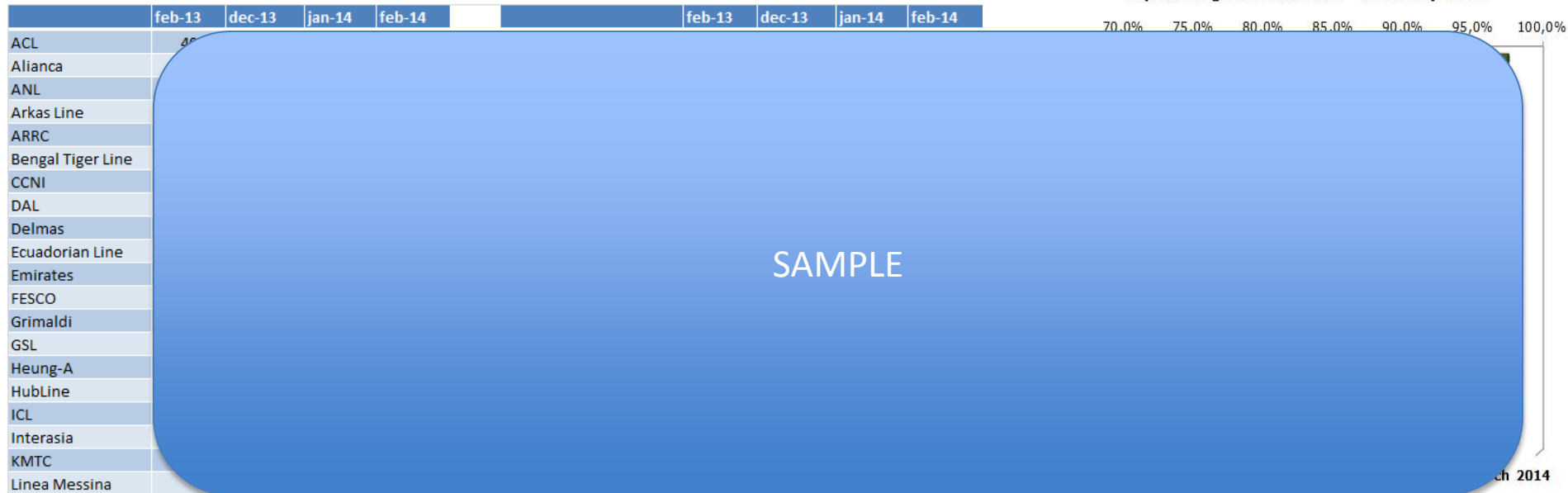
## Global developments

Performance across niche carriers continues to be much more diverse than seen across the global top-20 carriers. This greater diversity is partly explained by the lower number of measurements available for niche carriers – and hence uncertainty increases – and partly because niche carriers are exposed to very different markets.

For the first time over a 12 month period, Matson is not the most reliable carrier among the niche carriers, as the American carrier's CLX service did not achieved a performance of 100% in February, but Matson remains within the Top3. In February, Niver Lines, Matson and HubLine were the most reliable carriers, as they achieved a performance of 97.7%, 95.2% and 92.4%, respectively.

At the other end of the scale we find Wallenius-Wilhelmsen, Grimaldi, Noboa and Ecuadorian Line, as they have achieved a performance of 2.7%, 11.5%, 16.7% and 16.7%, respectively.

Top ranking niche carriers - February 2014



March 2014

# Trade lane overview – Schedule reliability

The monthly changes in schedule reliability shows that 20 out of 32 trade lanes have seen a decrease in performance, whereas 10 trade lanes have witnessed a performance improvement, and two trade lanes have maintained the same level as in January. The most significant declines in schedule reliability were seen in the Europe-Oceania, Transatlantic WB, Asia-North Europe and Asia-WCSA trade lanes, as the performance dropped by 16, 13, 10 and 10 percentage points, respectively. The largest improvements were seen in the Africa-Asia and Europe-Africa trade lanes, as the performance improved by 6 and 7 percentage points, respectively.

Reliability developments on the three large head haul trades from Asia have declined significantly, as the Transpacific Eastbound trade declined 8 percentage points, Asia to North Europe decreased 10 percentage points, and the Asia to Mediterranean trade decreased 6 percentage points.

From a year-on-year perspective, the largest decreases are seen in the Asia to North Europe, Transpacific Eastbound and WCSA to Asia trade lanes, as the performance has deteriorated by 36, 27 and 27 percentage points, respectively. The largest increases are recorded in the Asia to Africa and South America to North America trade lanes, as schedule reliability has improved by 13 and 10 percentage points, respectively.

Tradelane	feb-13	jan-14	feb-14	Monthly change	Annual change	Tradelane	feb-13	jan-14	feb-14	Monthly change	Annual change
Transpacific EB										-3%	-5%
Transpacific WB										1%	-19%
Asia - North Europe										-8%	-13%
Asia - Mediterranean										-8%	-19%
Europe - Asia										-1%	-5%
Transatlantic EB										0%	-9%
Transatlantic WB										-3%	-2%
Europe - South America										-5%	-10%
South America - N. Europe										5%	13%
South America - Med.										6%	-10%
N. America - South America										7%	-2%
South America - N. America										2%	-8%
Europe-Oceania										-3%	-10%
N. America - Oceania										12%	-18%
Oceania - N. America										-10%	-22%
Oceania - Asia										-3%	-27%

SAMPLE

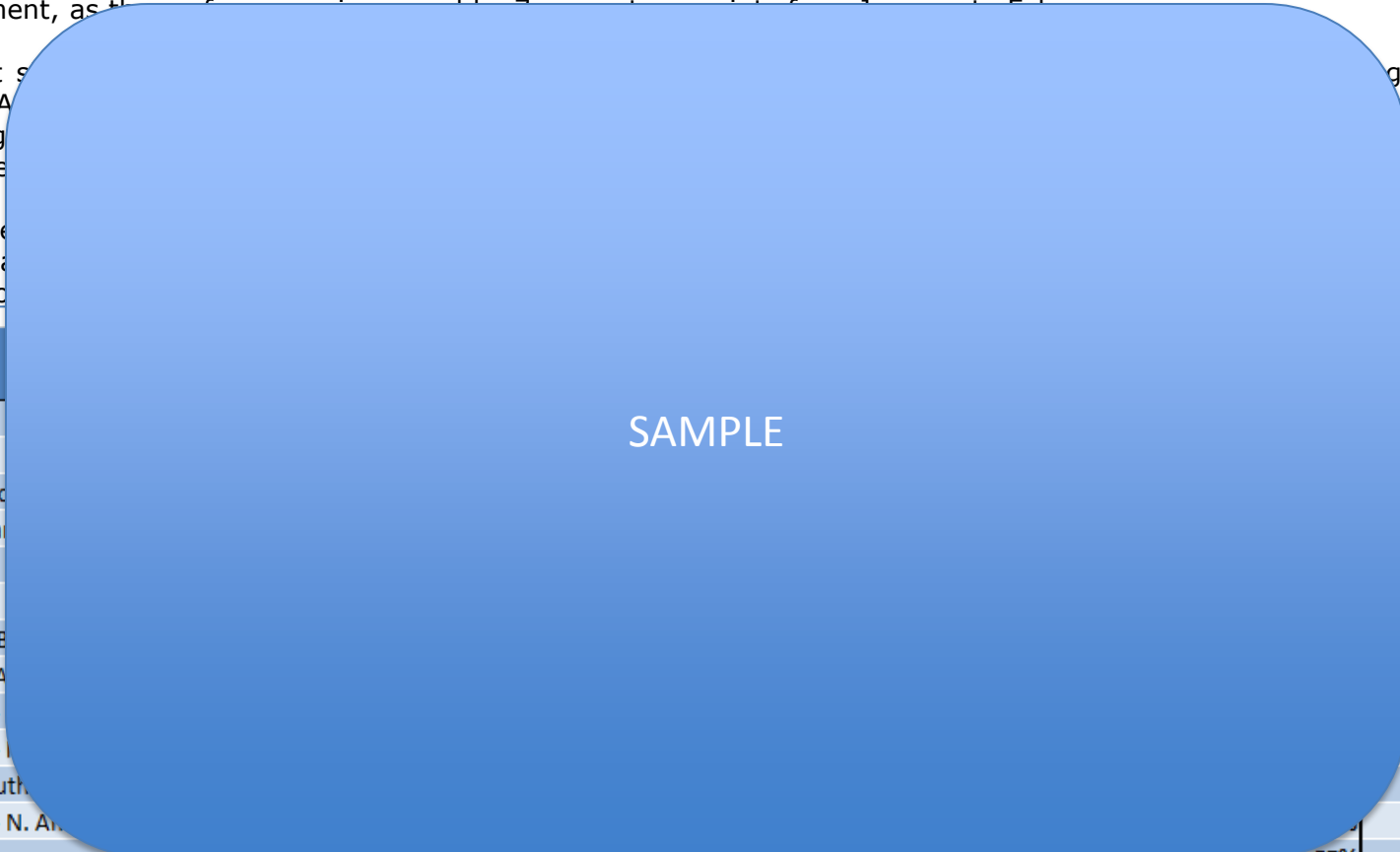
# Trade lane overview – Container Delivery

## Trade lane developments

In February, 19 out of 32 trade lanes witnessed a decline in the timeliness of container delivery, compared with January, and at the same time, 13 trade lanes saw their performance improve. The Transatlantic Eastbound trade lane witnessed the largest decrease, as container delivery declined by 10 percentage points, whereas the ECSA to Asia trade lane witnessed the largest improvement, as the container delivery timeliness improved by 7 percentage points.

The most significant deterioration, such as Asia to Africa, dropped 27 percentage points. The Asia to Africa trade lane also witnessed the largest improvement, as the container delivery timeliness improved by 10 percentage points.

It must be noted that the one-month rolling average, and the comparison of the current month with the previous month, may not necessarily reflect underlying trends.



Tradelane	Monthly change	Annual change
Transpacific EB	-2%	-9%
Transpacific WB	1%	-3%
Asia - North Euro	-7%	-7%
Asia - Mediterr	-2%	-11%
Europe - Asia	1%	-1%
Transatlantic EB	-5%	7%
Transatlantic WB	-4%	-6%
Europe - South A	-2%	-8%
South America -	4%	24%
South America -	2%	1%
N. America - South	2%	1%
South America - N. Am	5%	10%
Europe-Oceania	1%	-1%
N. America - Oceania	7%	-11%
Oceania - N. America	-6%	-24%
Oceania - Asia	-1%	-18%
Asia - ECSA	57%	1%
ECSA - Asia	55%	7%
Asia - WCSA	59%	-6%
WCSA - Asia	45%	-1%

Container data provided by







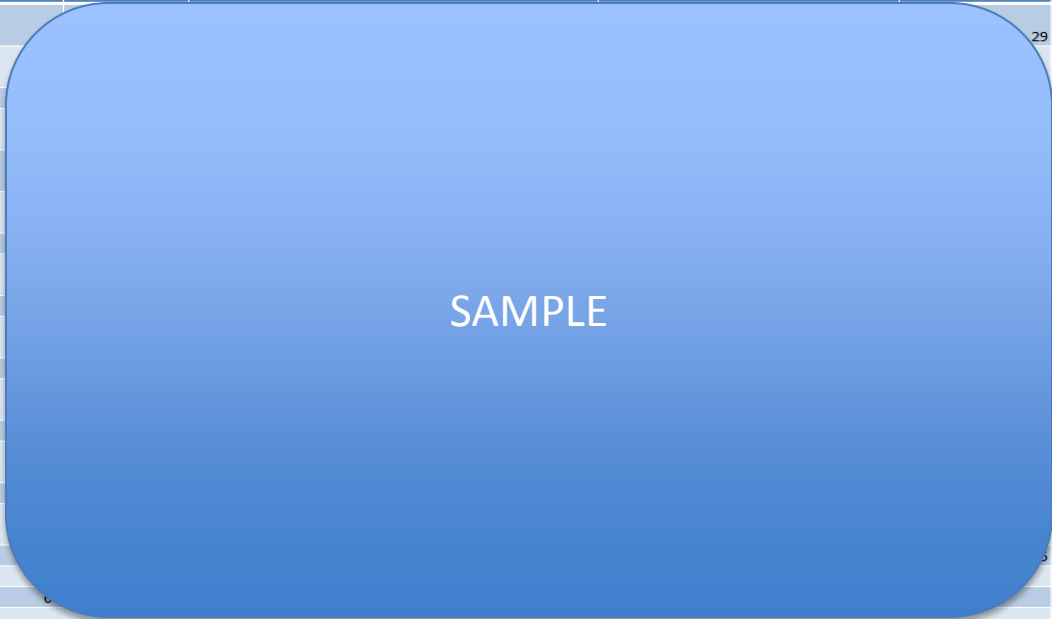
# Transatlantic Eastbound – Carrier Performance

Transatlantic EB	feb-13	mar-13	apr-13	maj-13	jun-13	jul-13	aug-13	sep-13	okt-13	nov-13	dec-13	jan-14	feb-14	6-month trend
UASC	100,0%												99%	Decreasing
CSCL														Decreasing
CSAV														Decreasing
Safmarine														Decreasing
ZIM														Decreasing
COSCO														Decreasing
ICL														Decreasing
APL														Decreasing
Hanjin														Decreasing
K Line														Decreasing
Yang Ming														Decreasing
CMA CGM														Decreasing
Hamburg Sud														Decreasing
Maersk Line														Decreasing
Hapag Lloyd														Decreasing
Turkon Line														Decreasing
ARRC														Decreasing
HMM														Decreasing
MOL														Decreasing
Evergreen														Decreasing
MSC														Decreasing
OOCL														Decreasing
ANL														Decreasing
NYK														Decreasing
FESCO														Decreasing
ACL														Decreasing
Ecuadorian Line														Decreasing
Noboa														Decreasing
Grimaldi														Decreasing
Wallenius-Wilhelms														Decreasing
Marfret		3%												Decreasing
CCNI	75,6%													Decreasing

SAMPLE

# Transatlantic Eastbound – service specifics

Carriers	Service	# of arrivals	% on-time	Carriers	Service	# of arrivals	% on-time
APL / CMA CGM / HMM / Maersk Line / MOL	ATS / Liberty Bridge 2 / ATS / TA 2 / ATS					29	48,3%
ACL / Hamburg Sud / Hapag Lloyd / NYK / OOCL	J Service / EUNA 1 / ATX / ATX / ATX						73,4%
ACL / Hapag Lloyd / OOCL	MGX / GMX						40,0%
COSCO / Evergreen / FESCO / Hanjin / K Line / Yang Ming	TAS1 / TAE / NTA / TAS1 / TAE						100,0%
ACL / Hapag Lloyd / NYK / OOCL	F Service / GAX / GAX / GAX						93,9%
CMA CGM / CSAV	Victory Bridge / SAMEX						75,0%
MSC	North Europe-USEC (North)						81,3%
MSC	SAT 1						20,0%
ICL	Transatlantic Service						0,0%
ACL / Grimaldi / Hapag Lloyd / Wallenius-Wilhelmsen	Transatlantic conro service / North America / North Europe Service / ATA						40,6%
ARRC	USA-Russia service						3,6%
Hapag Lloyd / MSC / OOCL	SLCS / Montreal Express / GEX1						10,0%
Hapag Lloyd / OOCL	SLCS 2 / GEX 2						83,7%
CMA CGM / Maersk Line	Saint Laurent 1 / TA 4						0,0%
MSC	Med-USEC service						62,5%
MSC	Med-US Gulf Service						22,2%
MSC	California Express					3	95,6%
Hamburg Sud / Hapag Lloyd	MMGX 1 / MPS						
Hamburg Sud / Hapag Lloyd	MCPS / MedPac						



**Performance by services for Jan 2014-Feb 2014**

# Definition of Schedule Reliability and Container Delivery

## **Schedule Reliability:**

Schedule reliability performance is a measure of the actual on-time performance of individual vessel arrivals in ports around the world. Each month SeaIntel, measures more than 10,000 vessel arrivals on average, in more than 270 ports, which is the underlying data for the monthly global performance, as well as the individual trade lane and service performance. Please note, that trade lane and service performance is based on a two month rolling average. This means that the performance in the March report is based on vessel arrivals in both January and February.

The definition of "on time" has in accordance with the widely used calendar-day definition been settled as arrival within plus or minus 1 calendar day from the proforma schedule. While we would prefer to measure performance on a +/- 24-hour basis, this is not possible, as the majority of carriers only publish their schedules on a calendar day basis, and we as thus limited by the available data.

For more detailed information on the methodology used in calculating schedule reliability, we kindly advise our readers to consult the methodology section.

## **Container Delivery**

Container delivery performance is a measure of the actual on-time door-to-door on-time performance of individual containers delivered to customers around the world. Each month, SeaIntel's data partner, INTTRA, tracks the performance of close to 3 million containers, measuring whether the containers are delivered on-time in accordance with what was agreed on the Bill of Lading.

The difference between schedule reliability and container delivery is, that the vessel might arrive on time in the port, but the container will not be delivered to the customer on time e.g the container cannot get through customs clearance as a number of document is missing or the truck that should deliver the container to customer is picking the container up too late and it get caught in a serious traffic jam on its way to the customer.

Please note, that trade lane performance is based on a two month rolling average. This means that the performance in the March report is based on container delivery in both January and February. The definition of "on time" has in accordance with the calendar-day definition been settled as arrival within plus or minus 1 calendar day from the proforma schedule. For more detailed information on the methodology used, we kindly advise our clients to read the methodology section.

# Methodology – part 1

## **General Methodology**

In order to benchmark the container carriers on schedule reliability, we have established a quantifiable methodology for measuring the reliability performance of ocean carriers.

For users already familiar with our methodology, we can advise that no fundamental changes have been made to the overall methodology since the report issued on 15 June 2012, although with the August 2013 report, some technical changes have been made in the way trade lane performance is calculated. These changes, as detailed below, have not affected the Global carrier scores, and have only had limited impact on trade lane scores.

## **On-time measurement**

The definition of "on time" has in accordance with the calendar-day definition been settled as arrival within plus or minus 1 calendar day from the proforma schedule.

We have from the beginning of November 2011 been recording both schedules and actual arrival times by the hour for carriers which provide this information. Additionally, we have added a fourth data source, namely information concerning actual arrival by the hour directly from some carriers.

We have been in dialogue with a number of carriers particularly on the topic of measuring on calendar day versus measuring arrivals down to the hour or minute. At SeaIntel Maritime Analysis we are of the principal opinion that data should be as detailed as possible, but also that data must be comparable. As the vast majority of container carriers do not provide schedules beyond calendar days, we have chosen to maintain our existing methodology, focusing purely on calendar days in order to ensure comparability across carriers. As more carriers provide schedules by the hour, we may revise the methodology, or include specific analysis of by the hour performance.

# Methodology – part 2

## **Global Performance**

### **\*\*\* UPDATED METHODOLOGY FROM MARCH 2014 REPORT**

Global schedule reliability performance of the container carrier industry is measured on the basis of all vessel arrivals recorded in SeaIntel's Global Liner Performance database, also arrivals not currently covered by a trade lane. Importantly, each vessel arrival is only counted once in the global performance, irrespective of the number of container carriers that may be onboard a given services.

Container delivery performance is based on data supplied by SeaIntel's data partner, INTTRA, and is based on close to 3 million monthly container deliveries. The data is provided on a country-country level, so there may be slight misalignments with the schedule reliability trade lane data which is sourced on a port-port level. Importantly, the data provided by INTTRA does NOT contain information on individual container carriers, and SeaIntel cannot provide container delivery performance for carriers.

As of the March 2014 Global Liner Performance report, a minor change has been implemented in the methodology for calculating the global container delivery performance. In the past, global container delivery performance was calculated as a running two-month average, in line with how trade lane performance is calculated, but as of the March 2014 report, we have changed the methodology so the global container delivery performance is only calculated for the month in question, so it is in line with the calculation of global schedule reliability performance. The effect of changing the calculation method has been minimal, with individual monthly performance changing less than 3% as a result.

## **Carrier Performance**

### **\*\*\* UPDATED METHODOLOGY FROM FEBRUARY 2014 REPORT**

As of the February 2014 Global Liner Performance report, a major technical update has been implemented in the methodology for how individual carrier performance is calculated, although the effect on the actual performance results is very minimal. Up to the February 2014 report, carrier performance has been calculated based entirely on whether a carrier was onboard a service or not, and if a carrier was onboard a service, their performance would be calculated based on all the port calls of the service, irrespective of whether the carrier in question was actually offering a product for the entire round trip.

As an example, Carrier A may offer a service consisting of a specific number of port pairs on competing Carrier B's string, usually through a slot purchase/charter agreement. In the past, both carriers would receive the same performance for those services, although carrier A only offers a product between a specified set of port-pairs of Carrier B's round trip service. This has now been changed, so each carrier are scored exclusively on the services/port pairs/regions they offer.

This is an improvement of the underlying database we have wanted to perform for a long time, but we have simply not been able to do it before, as it has been a major technical undertaking that has taken several months of parallel development, effectively requiring a complete redesign and restructure of the entire GLP database, which already is the World's most comprehensive database of carrier schedule performance. While it has been an absolutely immense technical challenge, the resulting change in performance scores has been absolutely minimal, with monthly global scores changing less than 0.1 percentage points as a result of the change in methodology.

While the effect on results has been minimal, we are very pleased with this comprehensive methodological update, as it is absolutely imperative for SeaIntel that we always strive to provide the best and most correct data and analysis to our customers. If you have any questions or comments to this change in methodology, or any other questions about the GLP report or other SeaIntel services, please do not hesitate to contact Mr. Morten Thomsen at [m.thomsen@SeaIntel.com](mailto:m.thomsen@SeaIntel.com)

# Methodology – part 3

## **Trade Lane Performance**

### **\*\*\* UPDATED METHODOLOGY FROM AUGUST 2013 REPORT**

In the original database design, we assigned each service to an overall trade, e.g. Asia-Europe or Transpacific, and then we would calculate trade lane performance by measuring the number of arrivals that were on-time into a given head haul region, so e.g. for Asia - North Europe we would calculate the number of arrivals on Asia-Europe services into North European ports, and then count the number of arrivals that were on-time.

While this worked fine in the beginning when only measuring a subset of the global network, it has become increasingly difficult to maintain, as some trade lanes require very special attention, e.g. Asia - Middle East, where we would include Asia - Europe services, but only on the westbound call into the Middle East.

The maintenance became even more cumbersome with the increasing service disruptions and restructuring, where a service may change scope for an extended time period. Further, some trades were notoriously difficult to measure, e.g. the Middle East - Europe trade, where we would include Asia - Europe services, but only if they had made a call in the Middle East, which meant that with increasing omission and service restructures, we essentially had to monitor each port call on many services, and then trace back all the previous calls, to see if they had called the planned regions. Adding to this were the challenges from butterfly and pendulum services, and an increasing number of service that could not be assigned to a specific trade, but had to be handled manually. With more than 10.000 vessel arrivals each month, this was becoming impossible to do.

## **New Trade Lane Methodology**

As of the August 2013 report, we have instituted a new trade lane methodology, where we do not assign a given service to any specific trade. Instead we trace the previous region calls that each vessel has made, irrespective of the service it is on, and then assign trade lanes based on the rotation. So if a vessel calls a European port, we trace back in the rotation and see what regions it has been to, so if the vessel has called ports in e.g. Asia, ISC and Middle East regions, that European port call is automatically assigned to the Asia-Europe, ISC-Europe and Middle East Europe trade lanes.

The algorithm that calculates this is very complex, and as of the August 2013 report, we have recorded more than 320.000 scheduled arrivals and more than 240.000 actual arrivals, and this massive size and complexity has required a completely new database system and front end management system to maintain the database, which caused delays in the release of the August and September 2013 reports.

The benefit of the new methodology and database structure is that we do not have to re-calculate all the trade lane performance scores manually, and we should be able to produce the report much faster going forward. Further, we have been able to include all ports in trade lane calculations, so the basis is now more than 270 ports.

Further, with the new database system we should be able to share all the data tables from the GLP directly with users, directly from our website, within the coming months. We will keep subscribers informed as when this will be available.

# Methodology – part 4

## **Data Collection**

Most of the carriers have schedules available on their website, which include port rotation (both head haul and backhaul), vessel names and day of arrival. However, some carriers do not have such accurate schedules available on their website. In these cases we have used the carrier's port to port search tool on their websites and composed the schedules through that tool.

The schedule data reflects proforma schedules 15 – 45 days into the future.

We are aware, that in a few instances there might be a discrepancy between some of the schedules a carrier places on their website and the schedules they provide through an EDI or XML feed. To ensure consistency in the measurement methodology, we have elected to focus on the schedule information provided through carrier websites. In cases where we have received data directly from the carriers, and we see a discrepancy between the website proforma and the carrier-submitted proforma, we have used the proforma information which matches the definition of a liner service – namely the regular arrival/departure.

The reason for making this choice is that the schedules on the website are a de-facto display of the carrier's product portfolio towards all potential and existing customers. Data transmitted through EDI or XML, on the other hand, constitute only a partial information flow, as it is designed to reach only a number of existing customers.

This choice of methodology also implies that a small part of the scheduled arrivals might not be part of our analysis, in the cases where they were not stated on carrier websites at all.

We use six different sources to identify the vessels' actual time of arrival: the carriers' own websites, information from ports, Track and Trace data submitted by Shippers, terrestrial AIS data, satellite AIS data, and data provided directly by carriers.

Our primary source to identify the vessels' actual arrival is the carriers' own websites. In those cases where the carriers do not update their websites with actual arrivals, we obtain arrival information from the individual ports, or from Track and Trace data submitted by Shippers with cargo onboard the vessel. If neither of those sources can identify the actual arrival of the vessel, we use AIS data, both terrestrial and satellite, to locate a vessel's geographical coordinates and to determine, when the vessel called the port.

When several carriers are cooperating on the same services through e.g. a vessel sharing agreement, alliance service or on slot charter, the actual schedule reliability will count for all the carriers involved in the relevant service. All carriers participating will be fully measured on the service performance. A more accurate measurement would entail weighting the reliability, in proportion to the share of the vessel assigned to each carrier. However, this information is rarely, if ever, announced by the carriers, hence the only methodologically consistent approach is to assign full value to each carrier using the service.

# Methodology – part 5

## **Coverage**

The Global Liner Performance database covers the majority of the deep sea service identified from 60 different carriers.

## **Services:**

Currently, the GLP database cover more than 260 active services and more than 100 inactive services, based on more than 299.000 individual vessel arrivals, across 32 major trade lanes.

We have elected to exclude very short services, as schedule reliability becomes difficult to calculate with very short round trips. As an example, a very short 7-day round trip would by definition be on-time if the vessel is one day late. If the vessel becomes late by 7 days, it could be argued that it is now back on time, as the rotation has just been shifted by a week. We may include shorter services in the future, as well as additional services

## **Ports**

The GLP is based on actual arrivals in more than 270 different ports around the world.

## **Carriers**

Currently, 60 different carriers are included in the schedule reliability measurement. The 60 carriers include all the Top20 carriers, as well as a range of smaller niche carriers.

## **Vessels**

The schedule reliability report is based on the tracking of more than 3.000 different vessels, in more than 6.000 vessel / service combinations.

## **Data aggregation**

When calculating performance by trade lane we are calculating on the basis of a 2-month rolling window. As an example "February" performance for a tradelane includes data from January and February, whereas "January" includes data from December and January. This methodology is chosen to ensure that measurements best possible reflect genuine changes in performance, and are not prone to large statistical fluctuations which can be associated with covering only a short timespan. Further, when measuring performance over a two-month period, we ensure that enough data points are available on a service and trade lane level. We only include service and carriers on the trade lane level, if a minimum of five vessels arrivals have been recorded over a two-month period.



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Data concerning container reliability and performance measurements related to the container level are provided by INTTRA. Further information about INTTRA can be found at [www.INTTRA.com](http://www.INTTRA.com)

The report has been provided to you by:

COO and Partner, Mr. Alan Murphy – [alan.murphy@SeaIntel.com](mailto:alan.murphy@SeaIntel.com)

Shipping Analyst, Mr. Morten Berg Thomsen – [m.thomsen@SeaIntel.com](mailto:m.thomsen@SeaIntel.com)

Shipping Analyst, Mr. Kasper Hansen – [k.hansen@SeaIntel.com](mailto:k.hansen@SeaIntel.com)

SeaIntel Maritime Analysis

Vermlandsgade 51, 2. 2300 Copenhagen S. Denmark

[www.SeaIntel.com](http://www.SeaIntel.com)

Tel: +45 6068 77 44 or +45 2825 1478 E-mail: [info@SeaIntel.com](mailto:info@SeaIntel.com)

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