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EXECUTIVE SUMMARY

Analytics Report- April 2018

- Trend of logistic container operators i.e. Port terminals, CFS and ICDs
- Performance Analysis
- Congestion Analysis
- Container traffic movement at Port terminals

High Points

- Improvement in JNPT Port dwell time performance for Export cycle by 9.4% in Apr'18 in comparison to previous month
- Improvement in ICD dwell time performance by 5.1% in April'18 in comparison to the previous month
- Reduction in carbon emission between two toll plaza route due to reduction in transit time
 - Khaniwade to Charoti- 7%
 - Bharthan to Vasad 6%
- The forecasted value of container volume at JNPCT terminal is projected to increase in next month by 0.7% as compare to last month
- Year on Year trend for JNPCT and NSIGT port dwell time depicts the increase in performance by 7% and 16% respectively.

Decline in the Average delivery time of 13.1 % between JNPT and nearby CFS in Apr'18 as compared to Mar'18

Low Points

- The transit time between Charoti toll plaza and Boriach toll plaza decreased by 18%.
- NSICT port terminal has seen an decline in its Import cycle Port dwell time performance by around 33% in April 18.
- Year on Year trend for GTI and NSICT Port Dwell Time depicts the decrease in performance by 7% and 21% respectively







Container Lifecycle (Export Cycle)



	IMPORT CYCLE DWELL TIME	
	PORT DWELL TIME FOR TRUCK BOUND CONTAINER	30.7 Hrs
PORT DWELL TIME	PORT DWELL TIME FOR TRAIN BOUND CONTAINER	72.1 Hrs
	TOTAL DWELL TIME FOR TRAIN & TRUCK BOUND CONTAINERS	33.8 Hrs
TRANSIT TIME	PORT TO ICD	70.9 Hrs
	PORT TO CFS	2.39 Hrs
LCO DWELL TIME	CFS DWELL TIME	83.8 Hrs
	ICD DWELL TIME	130.9 Hrs
	EXPORT CYCLE DWELL TIME	
	PORT DWELL TIME FOR TRUCK BOUND CONTAINER	67.4 hrs.
PORT DWELL TIME	PORT DWELL TIME FOR TRAIN BOUND CONTAINER	112.8 hrs.
	TOTAL DWELL TIME FOR TRAIN & TRUCK BOUND CONTAINERS	70.4 hrs.
TRANSIT TIME	ICD TO PORT	70.2 hrs.
	CFS TO PORT	5.36 hrs.
	CFS DWELL TIME	83.8 Hrs
LCO DWELL TIME	ICD DWELL TIME	130.9 Hrs



Performance Index – Port Terminals





Import Cycle Analysis

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Port performance Import Cycle : JNPT region

PORT IMPORT via TRAIN

The Port Dwell time data for train movement in import cycle is depicted below. Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal

Port	Mar'18 (in Hrs)	Apr'18 (in Hrs)		
GTI	65.07	62.05		
JNPCT	66.37	62.68		
NSICT	69.95	86.49		
NSIGT	100.61	115.22		
PORT IMPORT via TRAIN				
Port Handling limit Within Within Within Within				

2-5 days

36%

43%

38%

30%

5-8 days

13%

13%

23%

24%

8 days

11%

6%

12%

25%

Port Terminals

GTI :

JNPCT:

NSICT:

NSIGT:

2 days

40%

38%

27%

21%

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PORT IMPORT via TRUCK

The Port Dwell time data for Truck movement in import cycle is depicted below. Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal

Port	Mar'18 (in Hrs)	Apr'18 (in Hrs)
GTI	20.0	26.4
JNPCT	23.6	30.7
NSICT	33.2	42.5
NSIGT	32.3	32.2

PORT IMPORT via TRUCK





JNPT TRANSIT TIME: CONGESTION ANALYSIS

Import Cycle :-

The below figure shows the congestion around JNPT port in both Import and Export cycle



Note : Congestion is measured w.r.t actual time taken to cover the respective distance between clusters and terminals

Import Cycle :-

Import Cycle :- 💻

Import Cycle :-

JNPT TRANSIT TIME: Container Movement Via Truck

HEAT MAP : OVERALL MUMBAI REGION		
Region Transit Time- Apr'18		
Mumbai Region	56%	
NH1	16%	
NH3	2%	
Pune Route	16%	
Others	10%	

The figure depicts the movement of containers via truck in and around Mumbai region.



via Train

VOLUME WISE CONTAINER MOVEMENT				
Region Transit Time- Apr'18				
Vadadora Route	25%			
Bhopal Route	11%			
Nagpur Route	7%			
Panvel Route	57%			

The map shows the volume wise container movement through different railway routes in import cycle for April'18







JNPT TRANSIT TIME: Toll Plaza Congestion Analysis

The below table shows all the toll plazas covered under DLDS connected with JNPT

Avg. Travel Time & Speed between Toll Plazas (Apr'18)						
Source	Destination Toll Plaza	Inter Distanc e (Km)	Avg. Travel Time (Hr)	Apr'18 Avg. Speed (Km/Hr.)	Mar'18 Avg. Speed (Km/Hr)	
JNPT	Khaniwade	94	7.3	12.7	13.1	
JNPT	Khalapur	60	4.1	13.6	13.8	
Khaniwade	Charoti	50	1.30	35.6	37.3	
Charoti	Boriach	126	4.60	23.7	28	
Boriach	Bharthan	142	4.30	31.8	33.3	
Bharthan	Vasad	60	1.53	38.2	39.2	
Kishangarh	Daulatpura	128	3.10	36.7	40.1	
Khalapur	Khedshivpur	105	3.7	28.5	-	
Daulatpura	Kherki	199	8.8	22.7	-	





Carbon Emission trend on National Highways for Jan'18 to April'18

The following displays the change in carbon emission from Jan'18 to April'18. The carbon emission is calculated on the basis of transit time calculated from LDB data for toll plazas on national highways. It is seen that 2 routes namely Khaniwade to Charoti and Bharthan to Vasad have shown reduction in transit time and in turn carbon emission reduction of 7% and 6% respectively





APSEZ PORT DWELL TIME ANALYSIS : IMPORT CYCLE

PORT IMPORT via TRAIN

The Port Dwell time data for train movement in import cycle is depicted below. Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal

Port	Mar'18 (in Hrs)	Apr'18 (in Hrs)
МІСТ	74.82	72.46
ACMTPL	66.55	71.70
AMCT	89.73	73.58
AICT	169.58	115.21
POI	RT IMPORT via TI	RAIN
Port Terminals With 2 da	ys 2-5 days 5	Within -8 days 13% More than 8 days 20%
ACMTPL: 30%	43% 1	16%
AMCT: 34%	33%	17% 15%
AICT: 18%	35%	4% 43%

PORT IMPORT via TRUCK

The Port Dwell time data for Truck movement in import cycle is depicted below. Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal

Port	Mar'18 (in Hrs)	Apr'18 (in Hrs)
MICT	24.01	28.58
ACMTPL	31.30	36.19
AMCT	24.30	29.54
AICT	33.44	46.16
AHPPL	27.32	25.75

PORT IMPORT via TRUCK





APSEZ MUNDRA Region : Congestion Analysis

Custom Gate and Rangoli Gate Analysis

The congestion scenario at custom gate and rangoli gate at Mundra region is shown. The analysis is done using the data displayed on the next slide which shows the scenario in Import and Export cycle.



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APSEZ MUNDRA Region : Toll Plaza Congestion Analysis

The below table shows all the toll plazas covered under DLDS in **Mundra region**.

Avg. Travel Time & Speed between Toll Plazas (Apr'18)

Source	Destination Toll Plaza	Inter Distanc e (Km)	Avg. Travel Time (Hr)	Avg. Speed Apr'18 (Km/Hr.)	Avg. Speed Mar'18 (Km/Hr .)
MICT	Mokha	28	1.3	22.3	22.3
Mokha	Makhel	150	6.1	24.5	25
Mokha	Surajbari	115	4.2	27.5	23.9
Makhel	Bhalgam	108	2.9	37.2	-
Bhalgam	Uthamam	209	6.9	30.3	-
Uthamam	Indranagar	109	3.1	35.6	-

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APSEZ MUNDRA Region : Container Movement via Truck

	From Mokha towards		wards From Mokha towards			
Region	March'18	April'18		Region	March'18	April'18
Surajbari	35%	45%		Surajbari	37%	49%
Makhel	7%	10%		Makhel	7%	9%

The below graphs display the container traffic bifurcation from Mundra region towards Mokha and Surajbari routes for overall Mundra region and South Basin Custom Gate

HEAT MAP : Overall Mundra Region

i.e. all 4 terminals at Mundra port region i.e. MICT, AICT, AMCT, AHPTL

HEAT MAP : South Basin Custom Gate





APSEZ MUNDRA Region : Container Movement via Truck

	From Mokha towards			From Mokha towards	
Region	March'18	April'18	Region	March'18	April'18
Surajbari	32%	42%	Surajbari	42%	52%
Makhel	7%	12%	Makhel	40%	42%

The below graphs display the container traffic bifurcation from Mundra region towards Mokha and Surajbari routes for overall MPT Custom gate and APSEZ Region

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Heat Map : Apr'18 12% From Mokha Palasava Kunariya કુનરિયા Lakadia લાકડીયા Bhachat ્યાઉ Bhuj Kukma ભુજ કુકમા 341 42% From Mokha Naranpar Pantiya પાંતિયા/ નારણપર towards Surajbari Gandhidham ગાંધીધામ Kandla Chandrod \$SGI Navlakhi નવલખી dada lɛsı Towards Mokha

Region

Jodiya જોડિયા

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HEAT MAP : MPT Custom Gate

HEAT MAP : APSEZ Region

i.e. only Adani port terminals at Mundra port region i.e. AICT, AMCT, AHPTL



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APSEZ MUNDRA Region : Container Movement via Train

From Mundra Port Towards				
Route	Percentage of Container Movement			
Mundra Port to Jalandhar Junction	20%			
Mundra Port to Palanpur Junction	33%			
Mundra Port to Ratlam Junction	23%			
Mundra Port to Vadodara Junction	23%			

The map shows the volume wise container movement through different railway routes in import cycle for the month of April'18



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APSEZ HAZIRA Region : Congestion Analysis

The congestion at APSEZ region is shown :



It can be seen that Pre-authorization gates posses a major congestion bottleneck in the region





APSEZ HAZIRA Region : Congestion Analysis

The congestion at APSEZ region is shown :



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It can be seen that Pre-authorization gates posses a major congestion bottleneck in the region

Congestion Analysis				
ROUTE	Transit Time			
PRE-AUTORIZATION GATE IN TO GATE OUT	6.4 HRS			
GATE OUT TO TERMINAL IN	1.8 HRS			
PORT TERMIANL TO CFS	2 HRS			
CFS TO PORT TERMINAL	3.6 HRS			



Export Cycle Analysis

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JNPT PORT DWELL TIME ANALYSIS : EXPORT CYCLE

PORT EXPORT via TRAIN

The Port Dwell time data for train movement in Export cycle is depicted below. Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal

Port	Mar'18 (in Hrs)	Apr'18 (in Hrs)
GTI	113.7	108.79
JNPCT	152.1	136.35
NSICT	117.8	120.68
NSIGT	106.5	99.81

PORT EXPORT via TRAIN



PORT EXPORT via TRUCK

The Port Dwell time data for Truck movement in Export cycle is depicted below. Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal

Port	Mar'18 (in Hrs)	Apr'18 (in Hrs)			
GTI	62.3	61.70			
JNPCT	105.6	76.61			
NSICT	66.5	67.87			
NSIGT	62.1	63.52			

PORT EXPORT via TRUCK





Cluster with bottleneck

Cluster without

bottleneck

JNPT REGION : CONGESTION ANALYSIS

Congestion Analysis around Mumbai Region

Congestion Level

Export Cycle :-

Congestion Level

Export Cycle :-



Note : Congestion is measured w.r.t actual time taken to cover the respective distance between clusters and terminals

Congestion Level

Export Cycle :-

Congestion Level

Export Cycle :-

EXPORT CYCLE



Container movement around JNPT Port terminal region via Train

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Mumbai Port Towards			
ROUTE	PERCENTAGE OF CONTAINER MOVEMENT		
Vadodara Route	19%		
Bhopal Route	16%		
Nagpur Route	11%		
Panvel Route	54%		

The map shows the volume wise container movement through different railway routes in export and import cycle for April'18



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EXPORT CYCLE



APSEZ PORT DWELL TIME ANALYSIS : EXPORT CYCLE

PORT EXPORT via TRAIN

The Port Dwell time data for train movement in Export cycle is depicted below. Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal

Port	Mar'18 (in Hrs)	Apr'18 (in Hrs)	
MICT	52.2	73.5	
ACMTPL	122.5	118.1	
AMCT	130.4	121.3	
AICT	114.1	128.1	
P	ORT EXPORT via	TRAIN	
	ort Handling limit ithin Within days 2-5 days	Within 5-8 days 8 days	n
MICT : 38	33%	21% 8%	
ACMTPL: 13	37%	31% 18%	
АМСТ: 14	.% 36%	28% 23%	
AICT: 12	.% 34%	31% 22%	
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PORT EXPORT via TRUCK

The Port Dwell time data for Truck movement in Export cycle is depicted below. Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal

Port	Mar'18 (in Hrs)	Apr'18 (in Hrs)
MICT	95.23	94.73
ACMTPL	109.63	118.28
AMCT	105.47	93.15
AICT	105.40	117.19
AHPPL	96.39	91.8

PORT EXPORT via TRUCK



EXPORT CYCLE



Container movement around APSEZ Port terminal region via Train

MUNDRA PORT TOWARDS				
ROUTE	PERCENTAGE OF CONTAINER MOVEMENT			
Jalandhar Junction	25%			
Palanpur Junction	29%			
Ratlam Junction	23%			
Vadodara Junction	23%			

The map shows the volume wise container movement through different railway routes in export cycle for the month of April'18



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CFS and ICD Performance



JNPT region CFS : CFS DWELL TIME ANALYSIS

CFS Dwell Time (in hrs)					
CFS	Mar'18	Apr'18	CFS	Mar'18	Apr'18
All Cargo Logistics CFS, Navi Mumbai	75.96	71.01	JWR CFS	60.39	56.15361
Ameya Logistics CFS, Navi Mumbai	80.02	82.74	Maersk Annex (APM)CFS, Navi Mumbai	90.47	99.00028
APM (Maersk India) CFS, Navi Mumbai	55.06	68.51	Maharashtra State Corp CFS	56.21	63.39105
Apollo Logisolutions CFS, Panvel	73.87	89.08	Navkar Corporation Yard 1 CFS, Panvel	91.75	93.131
Ashte Logistics CFS, Panvel	100.19	96.95	Navkar Corporation Yard 2 CFS, Panvel	68.6	77.38926
Balmer & Lawrie CFS, Navi Mumbai	76.05	84.60	Navkar Corporation Yard 3 CFS, Panvel	83.22	89.23667
Continental Warehousing CFS, Navi Mumbai	70.24	75.84	Ocean Gate CFS, Panvel	82.83	75.77583
CWC Dronagiri CFS, Navi Mumbai	56.26	65.49	Punjab Conware CFS, Navi Mumbai	70.84	71.85986
CWC Hind Terminal CFS, Navi Mumbai	85.68	91.60	SBW Logistics CFS, Navi Mumbai	77.08	80.61495
Dronagiri Rail Terminal CFS, Navi Mumbai	46.8	58.00	Seabird CFS, Navi Mumbai	83.12	99.67167
Gateway Distriparks CFS, Navi Mumbai	88.8	83.53	Speedy Multimode CFS, JNPT	64.21	72.1366
Indev Logistics CFS, Panvel	75.22	78.80	Transindia Logistics Park, Navi Mumbai	73.52	77.10194
International Cargo Terminal CFS	76.6	71.41	Vaishno Logistics CFS, Navi Mumbai	60.3	82.76306
International Cargo Terminals (ULA) CFS, Navi Mumbai	77.62	81.47	Take Care Logistics CFS	126.51	149.6537
JWC Logistics Park CFS	50.71	65.89	TG Terminals CFS	78.92	73.745

CFS – DWELL OVERVIEW (IN HRS)



		Top Performing CFS			Low Perfo	orming ICD
		JWR CFS	Dwell Time: 56.15 Hrs		Take Care Logistics CFS	Dwell Time : 149.69 Hrs
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JNPT region CFS : Performance Index

The below graph depicts the Performance Index for all CFS for Apr'18 quarter. The Quadrant II represent the best CFS with high frequency Index i.e. high container volume at lower dwell time







Gujrat Region CFS Analysis : DWELL TIME

The table on the right depicts the dwell of all CFSs for month of Apr'18 and OND17

Dwell Time (in Hrs)		
CFS	Mar'17	Apr'18
Adani CFS Eximyard, Mundra	51.24	41.46
Adani CFS, Hazira	87.41	93.26
AllCargo CFS, Mundra	82.76	98.22
Ashutosh CFS, Mundra	80.61	60.94
Hind Mundra Terminals CFS, Mundra	103.09	104.74
Hind Terminal CFS, Hazira	117.28	116.12
Honey Comb CFS, Mundra	89.62	98.79
MICT CFS, Mundra	86.9	71.75
Mundhra CFS, Mundra	77.86	80.97
Saurashtra CFS, Mundra	89.77	87.43
Seabird CFS, Hazira	111.23	105.04
Seabird CFS, Mundra	96.92	96.62
TG Terminals CFS, Mundra	78.02	91.73
Transworld CFS, Mundra	97.76	95.57







Gujrat region CFS : Performance Index

The below graph depicts the Performance Index for all CFS for month of Apr'18. The Quadrant II represent the best CFS with high frequency Index i.e. high container volume at lower dwell time



CFS and ICD Performance

DLDS Logistics Redefined

ICD DWELL TIME ANALYSIS

The table below depicts the dwell of all ICDs for month Mar'18 and Apr'18.

Dwell Time (in Hrs)				
ICD	Mar'18	Apr'18		
ACTL ICD, Faridabad	136	138		
Adani ICD	80	131		
Albatross Inland Ports ICD, Dadri	89	115		
Allcargo Logistics Park ICD, Dadri	104	168		
APM Terminals ICD, Dadri	100	114		
CMA CGM Agencies ICD, Dadri	94	153		
CWC ICD, Loni	191	120		
CWC ICD, Patparganj	124	145		
Gateway Rail ICD	156	108		

Top Perfo	orming ICD
Gateway Rail ICD	108 hrs.



* Disclaimer: CONCOR Data is not been considered in this report.

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ICD : Performance Index

The below graph depicts the Performance Index for all ICDs for Apr'18. The Quadrant II represent the best ICD with high frequency Index i.e. high container volume at lower dwell time



ICD ANALYSIS : Transit Time Analysis

Transit Time Analysis

Below table shows the average delivery time of ICD in import cycle i.e. Port out to ICD in via rail transportation

ICD- AVG DELIVERY TIME PORT OUT TO ICD IN (TRAIN)		
Region	Apr'18	
NCR region	3.07 days	

Below table shows the average delivery time of ICD in export cycle i.e. ICD out to port in via rail transportation

ICD- AVG DELIVERY TIME ICD OUT TO PORT IN (TRAIN)		
Region	Apr'18	
NCR region	2.99 days	

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LEAD TIME ANALYSIS

Below table shows the average lead time of ICD in import cycle i.e. Port in to ICD out via train. The ICD's in NCR region have low dwell time as compare to Aurangabad region, thus making the lead time for the Aurangabad region higher as compare to NCR region

ICD- AVG LEAD TIME (TRAIN)		
Region	Apr'18	
NCR region	9.85 days	
Calculation :		
Port Dwell Time + Port to ICD Delivery Time + ICD Dwell Time = Avg. Lead		

Time from Port to ICD

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Trend Analysis

JNPT port dwell time trend :

The below table shows the overall port dwell time (i.e. import and export cycle combine) trend of all the JNPT Port terminals for Apr'18. Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal



The overall JNPT region average dwell time for Apr'18 is 52 hrs as compared to 51 hrs. in March'18

The below tables showcase the Import and Export cycle dwell time for both rail and truck bound containers for month of Feb'18, March'18 and Apr'18

JNPT Import cycle Trend

The average import cycle dwell time of JNPT region port terminals for Apr'18 is 33.85 hrs.



JNPT Export cycle Trend

The average export cycle dwell time of JNPT region port terminals for Apr'18 is 70.46 hrs.







The below graphs display the Year-on-Year overall dwell time performance across the JNPT Port terminals for April'17 and April'18.









It is observed that NSIGT has improved its dwell time performance by **16%** in April'18 as compared to April'17 whereas dwell time performance of NSICT has decreased in April'18 by **21%** as compared to the previous year i.e. April'17



The below graphs display the dwell time trend across the year of JNPT Port terminals from April'17 to April'18. The forecasted dwell time value based on the historical data is also presented in the graphs





21% increase in dwell time (Y-o-Y)



16% decrease in dwell time (Y-o-Y)

It is observed that NSIGT has improved its dwell time performance by **16%** in April'18 as compared to April'17 whereas dwell time performance of NSICT has decreased in April'18 by **21%** as compared to the previous year i.e. April'17

The above forecast has been done with the error rate of 2 to 15%

The below graphs display the container volume trend across the year of JNPT Port terminals from April'17 to April'18. The forecasted container volume value based on the historical data is also presented in the graphs below



2% decrease in container volume (Y-o-Y)

86% increase in container volume (Y-o-Y)

It is observed that NSIGT has increased its container volume by 86% in April'18 as compared to April'17 whereas container volume of GTI has decreased in April'18 by 15% as compared to the previous year i.e. April'17

The above forecast has been done with the error rate of 2 to 10%

Gujarat PORT DWELL TIME TREND Month on Month



87.7

81.9

MICT

Gujarat port dwell time trend :

Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal





KEY FINDINGS



NSICT port terminals has seen increase in its Import cycle port dwell time by around 33% in April 18

NSICT port terminal has seen increase in its overall dwell time by 11% in April'18 as compared to March'18. This is primarily due increase in export cycle dwell time of both train and truck containers.



