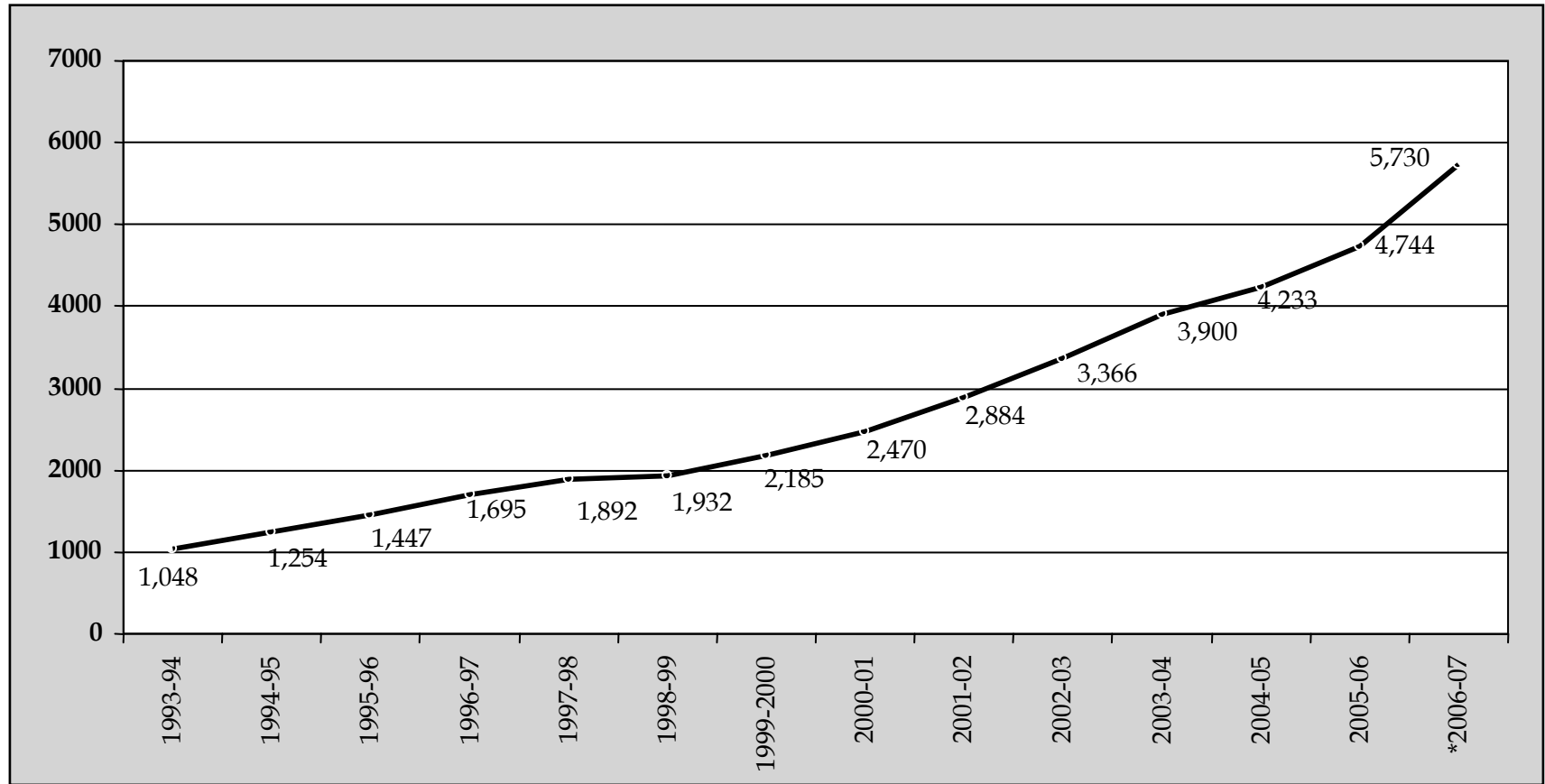


**RAIL OPERATIONS AND THE STRATEGIC VALUE
OF THE INLAND CONTAINER DEPOTS IN INDIA**

*SOUTHERN ASIA
PORTS, LOGISTICS AND SHIPPING
2006*

Mahendar Puri
Chief Executive Officer
Hind Terminals Private Limited

Indian Ports – Container Traffic at Major Ports



Exim Container Traffic– Major Ports

- **The EXIM Traffic in India is growing @ 15% annually.**
- **The growth rate has been more than what was projected in 10th Plan.**

<u>YEAR</u>	<u>Projected million teus</u>	<u>Actual million teus</u>	<u>Rail Share million teus</u>
- 2000 - 01	--	2.47	0.75 (30.36%)
- 2001 - 02	--	2.88	0.9 (31.30%)
- 2002 - 03	2.90	3.36	1.00 (29.76%)
- 2003 - 04	3.40	3.90	1.20 (30.70%)
- 2004 - 05	4.06	4.23	1.35 (31.91%)
- 2005 - 06	4.50	4.74	1.57 (33.12%)
- 2006 - 07	5.00	5.73*	1.95 (33.50%)

Container Ports - Western India

	2005-06			2021-22		
Port	TEUs Handled	Railway's Share TEUs	No of Trains Per Day	TEU Handling Capacity	Anticipated Rail Share TEUs	No. of Trains Per Day
	000s		Up+down	000s		Up+down
JN	2667	707	21.50	7500	2630	80.06
Mumbai	159	6	0.18	1500	530	16.13
Kandla	148	3	0.09	1000	350	10.65
Mundra	92	12	0.36	2000	900	27.39
Pipavav	66	8	0.24	1500	680	20.70
Hazira	Nil	Nil	Nil	2000	800	24.35
Total	3132	736	22.40	15500	5890	179.29

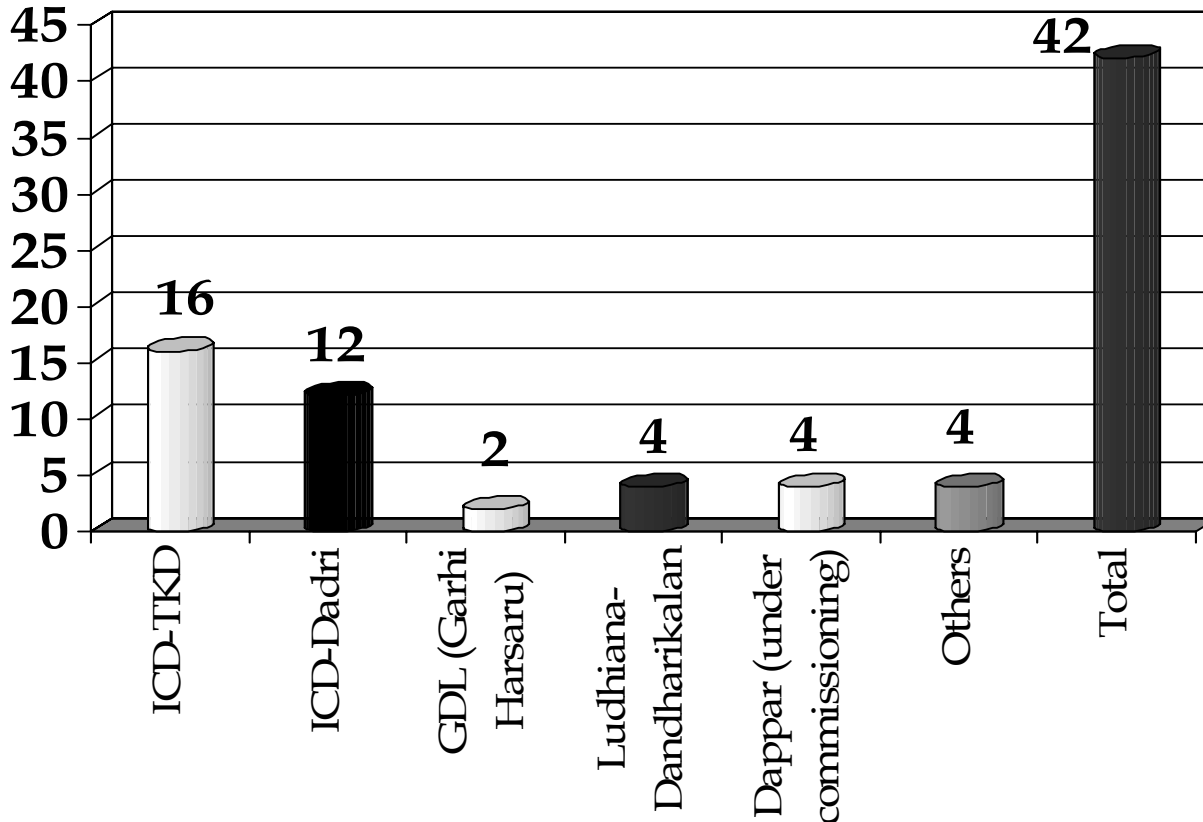
Growth Projection of Port Traffic

Year	Total Cargo Million Tonnes	General Cargo Million Tonnes		Containers			
		MTonnes	% of Total	Million Tonnes	Million TEUs	% of Total	% of Gen
2000 01	281.10	75.05	26.69%	32.22	2.47	11.46%	42.93%
2004 05	384.41	113.75	29.59%	54.76	4.23	14.25%	48.14%
2005 06	418.50	120.69	28.84%	59.72	4.74	14.27%	49.49%
2006 07	428.80	123.45	28.79%	61.1	5.52	14.25%	49.49%
2007 08	457.00	137.00	29.98%	69.19	6.21	15.14%	50.50%
2008 09	502.00	155.60	31.00%	80.91	6.98	16.12%	52.00%
2009 10	552.00	176.60	31.99%	94.48	7.86	17.12%	53.50%
2013 14	705.84	307.24	43.52%	181.2	15.10	25.67%	58.97%

The Global mix of containerized cargo to Total Cargo is 80:20 as compared to 15:85 of the same in India

Terminal handling capacity – Northern India

Number of trains per day up and down



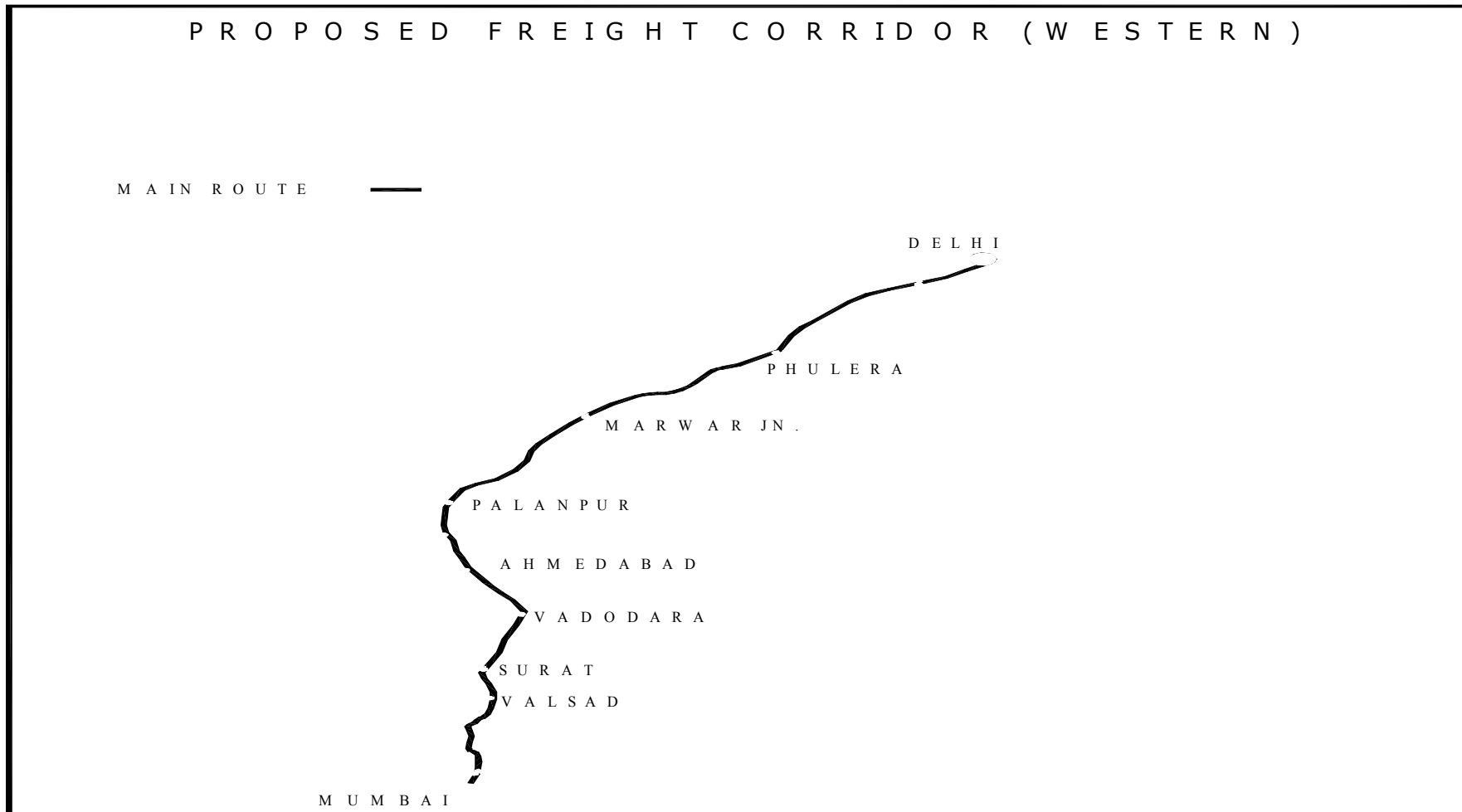
Mumbai – The Epicenter of Container Traffic

- **Total National Traffic : 4.7 million teus (2005-06)**
- **Handled at JNPT / NSICT - 2.66 million teus (56.60%)**
- **Rail share – 0.713 million teus (26.84%)**
- **Number of trains for Northern Hinterland – 8 trains each way daily (80% of rail traffic for North India)**

Concerns

- **Highly saturated Rail routes:**
 - **Howrah-Delhi Route (114% to 160%)**
 - **Mumbai-Delhi Route (115% to 150%)**
- **Lower priority to Container Trains.**
- **Mixed traffic**
- **Capacity constraints at enroute junction and stations**

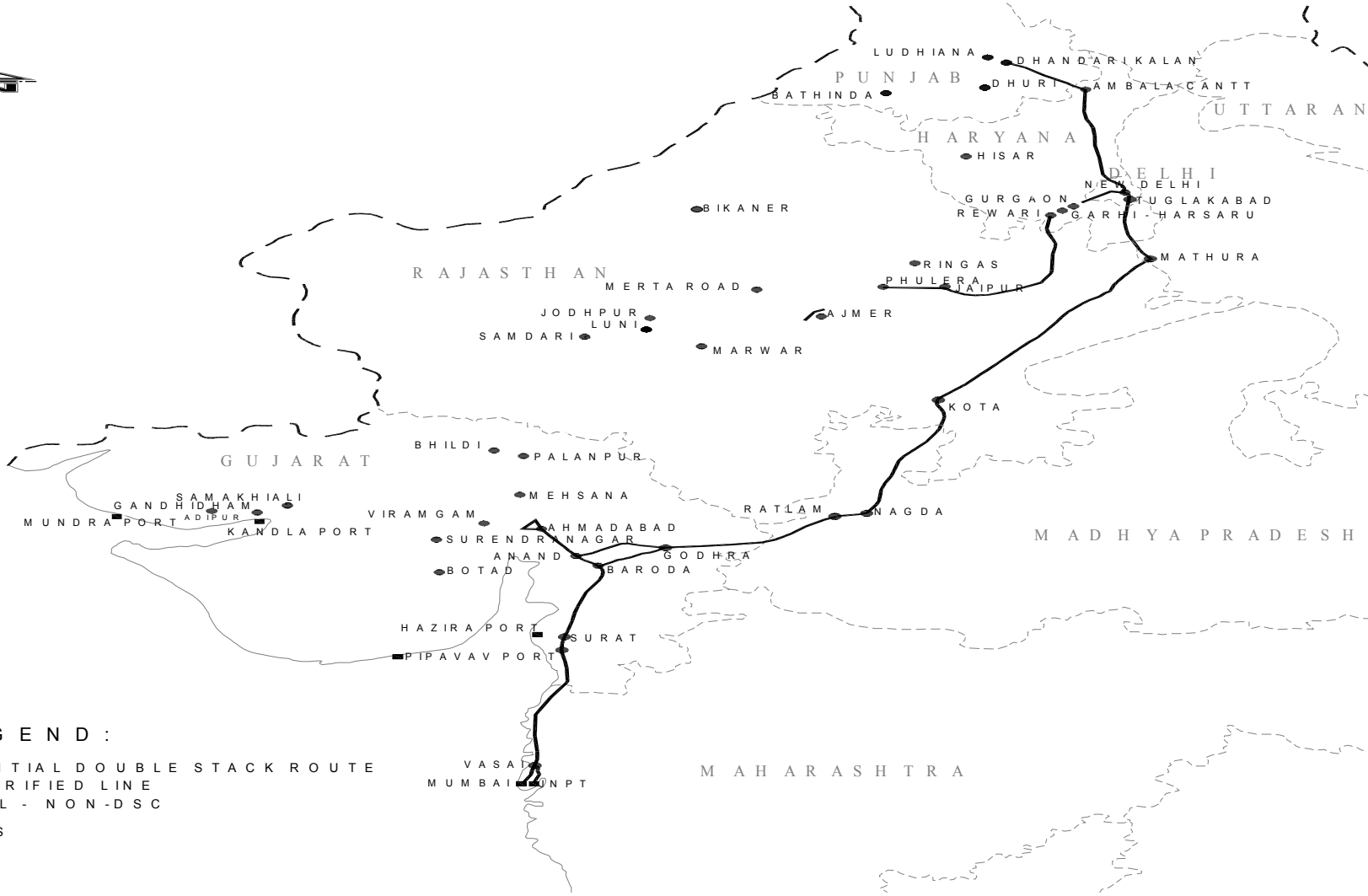
Western Freight Corridor - Proposed



Dedicated Freight Corridor

- **Create Rail Infrastructure To Carry High Levels Of Freight**
- **Reduction In Unit Cost Of Transportation & Inventory Costs**
- **Achieving Greater Customer Satisfaction**
- **Increase IR's Share In Freight Market**
- **Speed Up Freight Train Operations, Achieve Higher Productivity Through Better Utilization Of Railway Assets**
- **Introduction Of High End Technology In Freight Operations**
- **Increase Throughput By Higher Axle Loads, increasing the Moving Dimensions, Track Loading Density, Improved Pay Load/Tare Ratio**

Western Double Stack Container Network



LEGEND :

- POTENTIAL DOUBLE STACK ROUTE
- ELECTRIFIED LINE
- DIESEL - NON-DSC
- PORTS

Double Stack Containers on Indian Railways

- **The ports handled 4.7 million teus in 2005-06**
- **This traffic will exceed 14 million teus in next ten years.**
- **The number of trains required will go up from 25 to 137 per day at 30 % rail share.**
- **Rail Share is also likely to go up.**
- **Aiming at 50% Rail share will require 225 trains per day.**
- **This magnitude can not be handled with current practices.**
- **For increasing the rail share, the cost of haulage has to come down.**
- **Matching of throughput for larger ships can be fulfilled in lesser time.**

Double Stack Containers – Saving in Cost

	2005-06	2007-08	2009-10	2014-15
Projected TEUs	200959*	326671	483557	1239285
No of trains with SSC	6.5	10.5	15.6	39.9
No of Trains With DSC.	3.4	5.6	8.3	21.2
Saving in Rakes 17 % extra transit time for DSC. Trains	7.4	12.0	17.8	45.6
Saving in Cost of Rakes (Rs. In Crs.)	88.7	144.1	213.3	546.7
Saving in Locos assuming 17 % extra transit time	2.5	4.0	5.9	15.1
Saving in Expenditure on Loco account in Rs Crs.) / annually	1.20	1.95	2.88	7.39
Saving on Account of Maint of Rakes in Rs Crs. / Annually	4.43	7.21	10.67	27.34
Saving in Fuel in Crs of Rs	9.1	14.8	22.0	56.3
Saving in Crew in Crs.of Rs.	2.4	3.8	5.7	14.6
Total Saving in revenue Expenditure	17.13	27.85	41.22	105.65

*Actual figure is Nil because no movement started till February 2006. There was negligible movement in March 2006.

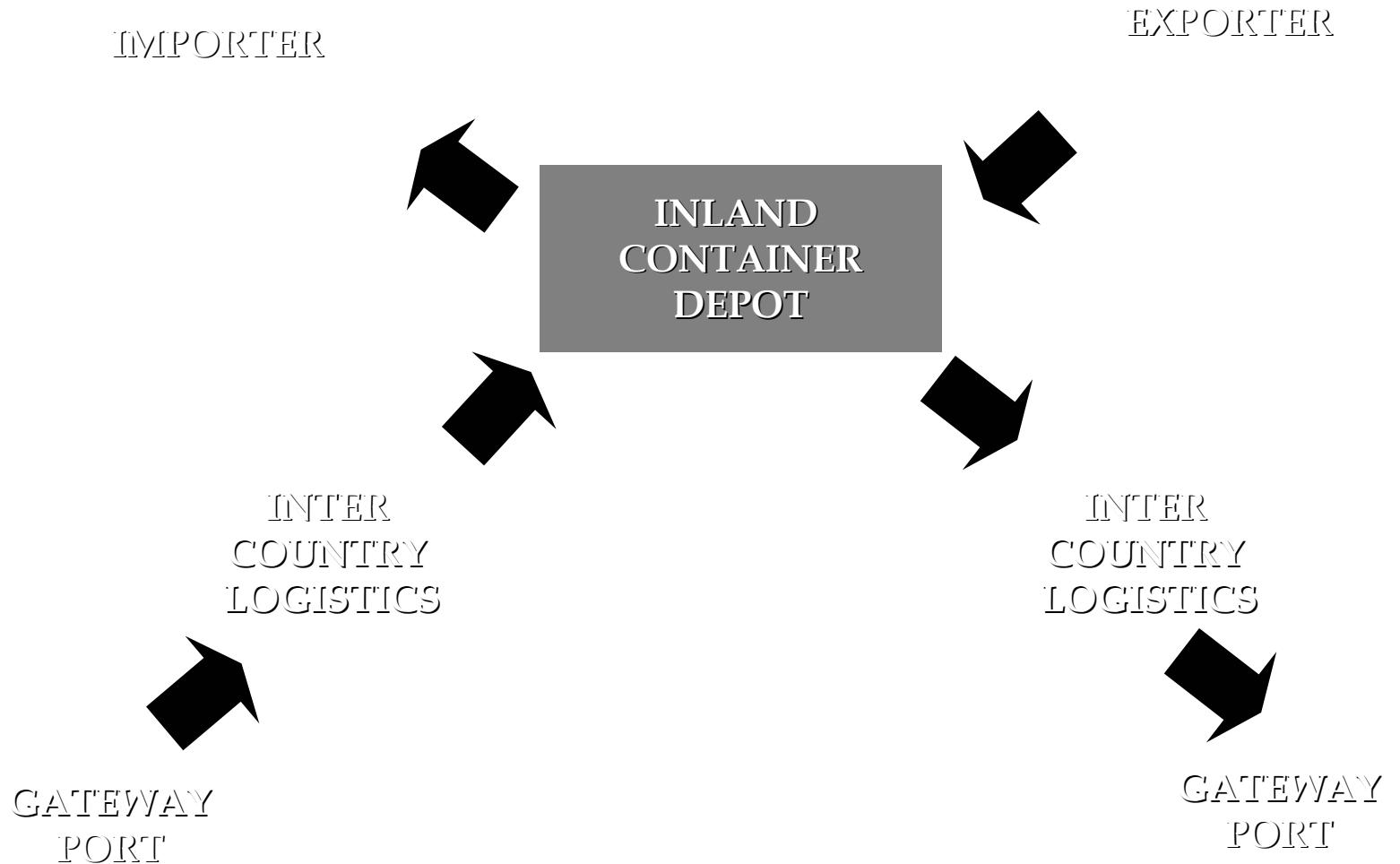
Cost of Transportation

- **Cost of transportation by rail in India is much higher than that of other countries. i.e. cost per 1000 Tonne Kms is:**
 - **India : \$16.2**
 - **China : \$ 8.3**
 - **Russia : \$ 7.3**
- **The inland transport cost component by rail, for EXIM cargo is much higher in the total transportation cost.**

Indian Railways And Others

COUNTRIES	INDIA	AUSTRALIA / EUROPE / US
AVG SPEED (kmph)	23.3	100
CAPACITY (TEUs)	90	150
AXLE LOAD OF WAGONS (TONS)	22	30
LOAD CAPACITY PER WAGON (TON)	88	120
PAY LOAD : TARE WEIGHT OF WAGON	2 – 2.6	4.5 – 5.5
	Thus Indian Railway carries 450 kg of wagons dead weight for every 1000 kg of freight carried compared to only 170 kg in the US.	

Container Transportation Chain



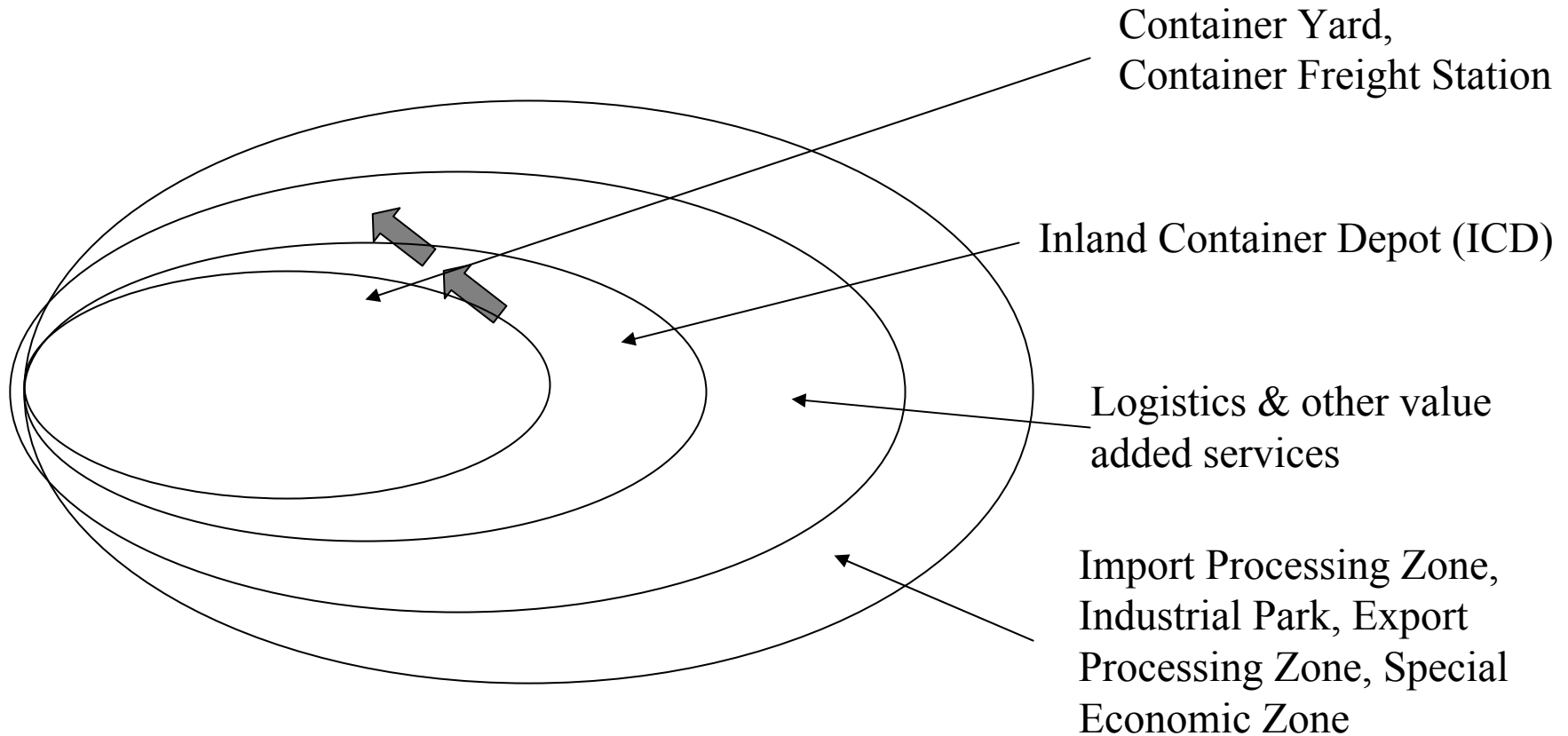
ICD Functions

- **Handling of import and export containers**
- **Transportation of containers to the gateway port**
- **Acting as hub and spoke**

Strategic Value of ICDs to the users

- **Distance of ICD to the manufacturing units**
- **Cargo handling facilities at ICDs**
- **Consolidation & deconsolidation**
- **Processing facilities**
- **Bonded warehouse**
- **Logistics and distribution**
- **Rail connecting to gateway ports**

Progressive Chain Links

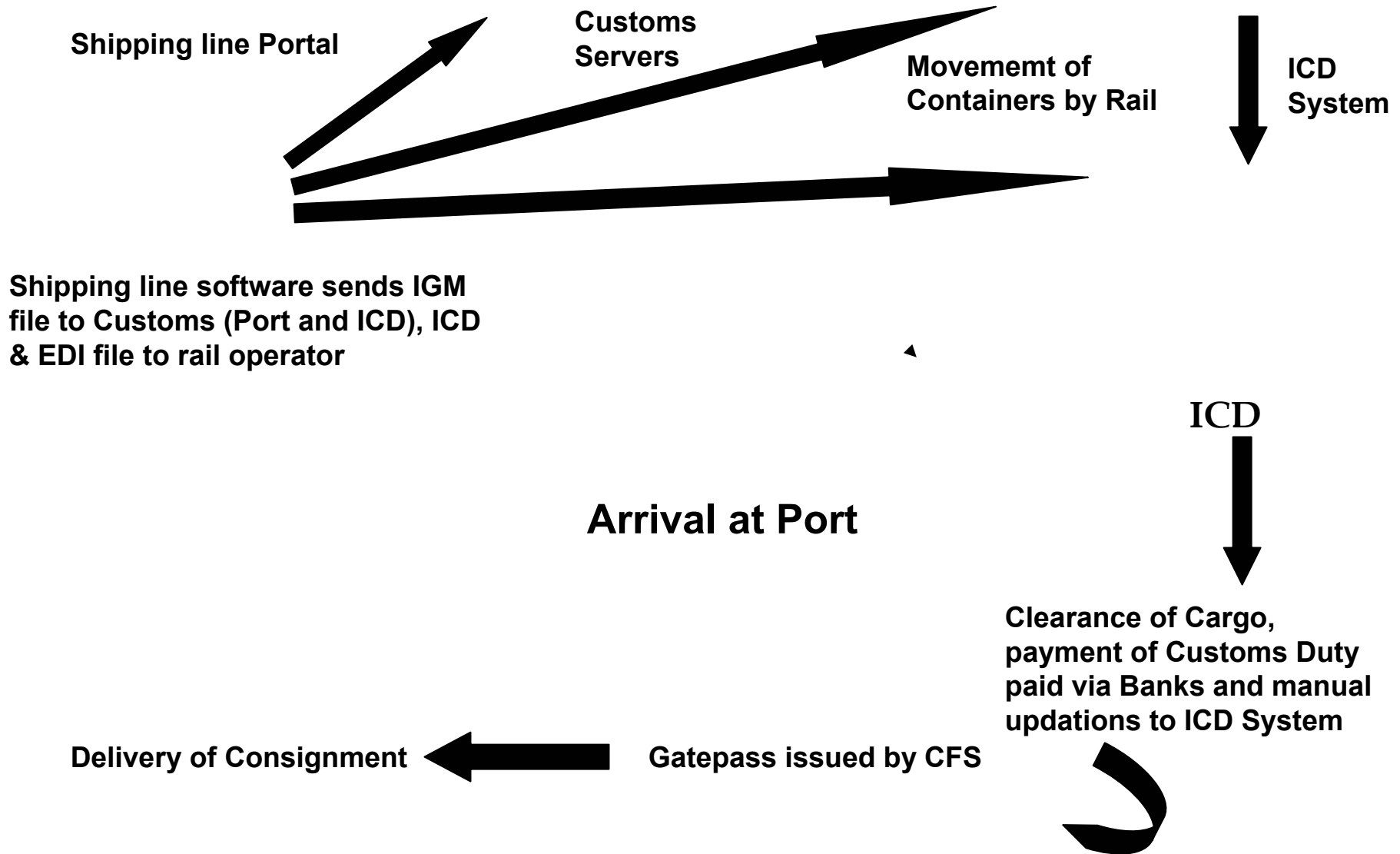


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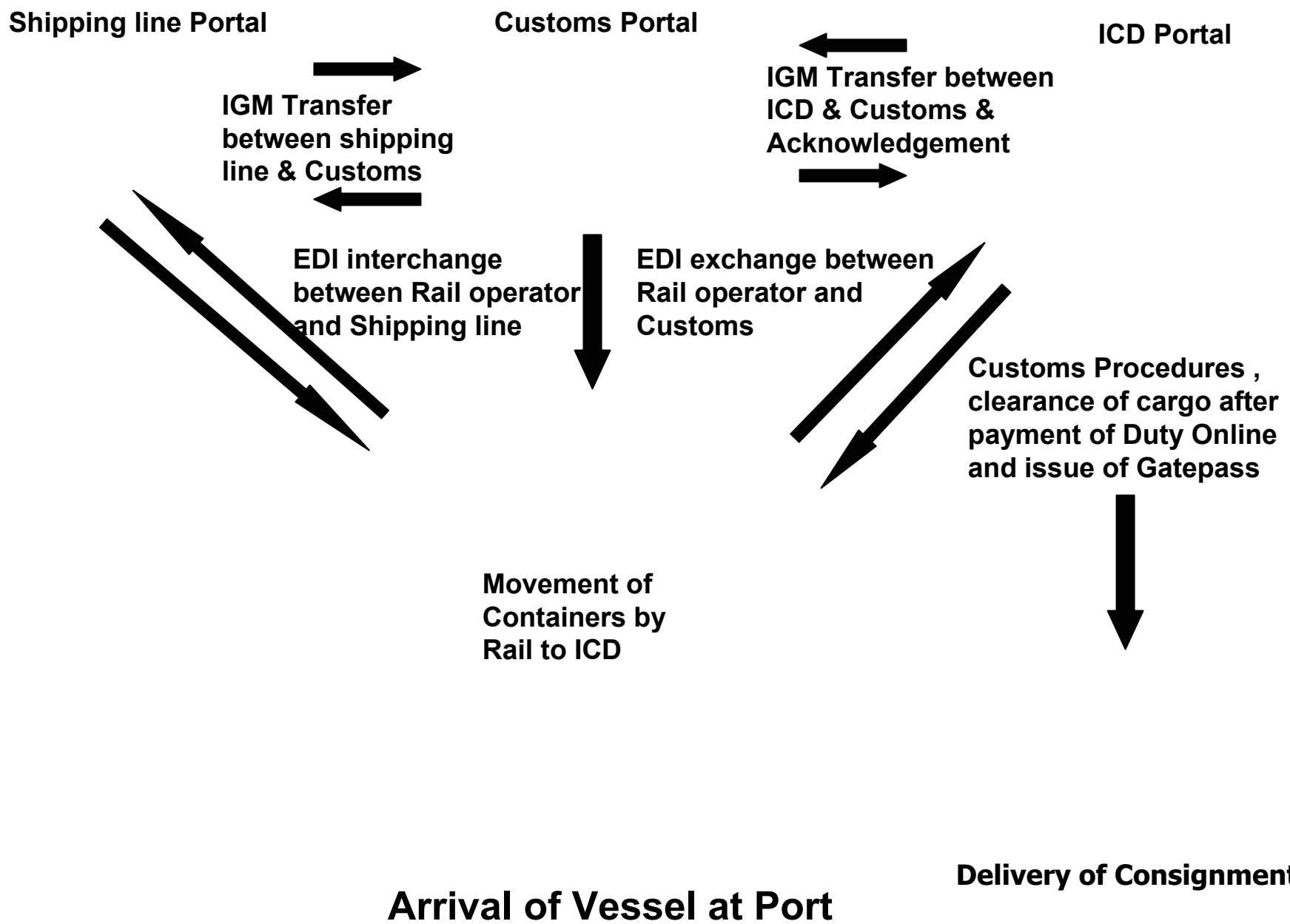
Challenges - ICD

- **High Cost of Land.**
- **Governmental Clearances (IMC / CLU)**
- **Complex Approval Procedures from Ministries.**
- **Custom Notification Process**
- **Inadequate Customs Staff for posting in ICDs.**
- **Inadequate & Irregular Power Supply.**
- **EDI Connectivity between all users - The concept of cohesive EDI / Port Community as developed by EU-India Maritime Transport Project must be first completed in their current scope and extended to link all facilities and service sectors.**
- **Difficulties in information gathering about movement of Trains on IR from ICDs to ports and vice versa.**

Present System



Proposed System



Advantages of the Proposed System

- **No duplication of activities**
- **Simplified procedures**
- **Faster movement of cargo**
- **Reduced Turn around Time**
- **Lower inventory levels**
- **Lower costs**

Thank You