

# *Automated Container Terminal For the Next Generation*

*Phase-1 December 2005*

*Phase-2 December 2008*

*Phase-3 In near future*



## **TOBISHIMA CONTAINER BERTH Co., Ltd.**

### <Company Profile>

#### ◆ Location of the Head Office :

1-4-3 Chome, Higashi-nama Tobishima-mura Ama-gun Aichi, 490-1446

#### ◆ Date of Establishment : July 1, 2003

#### ◆ Date of Opening Business : December 1, 2005

#### ◆ Business Outline :

- ① Management and operation of container berth
- ② Construction, maintenance, improvement and lease of container berth facilities
- ③ Management and lease of carrying equipment for cargo handling

#### ◆ Capital

¥495,000,000

#### ◆ Investing Companies

Kawasaki Kisen Kaisha, Ltd. MITSUI O.S.K Line, Ltd. Nippon Yusen Kaisha  
Asahi Unyu Kaisha, Ltd. Isewan Terminal Service Co., Ltd. Kamigumi Co., Ltd.  
Tokai Kyowa Co., Ltd. Fujitrans Corporation Meiko Trans Co., Ltd.  
Tobishima Logistics Service Inc.

### **【 Contact us 】**

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## **TOBISHIMA CONTAINER BERTH Co., Ltd.**



# Japan's first automated container terminal

## Transforming the Port of Nagoya into a Next-Generation Port that can disseminate the Port of Nagoya to the world

Deepening and Evolution through the trinity of shipping companies, harbor transportation, and land transportation



President Shigeru Nishimura

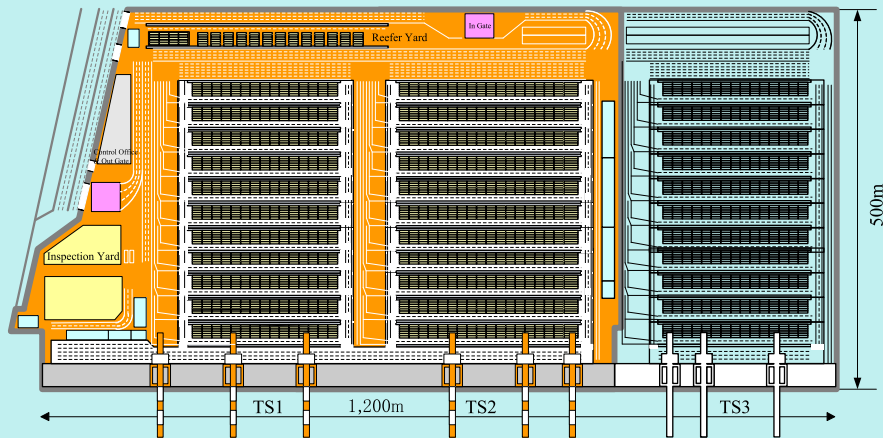
To reinforce for the vulnerability of the port business in the event of an emergency such as Hanshin-Awaji Earthquake, Our company was established in July 2003 in cooperation with the three industries of shipping, harbor transportation and land transportation.

It opened in December 2005 as a model terminal for the Port of Nagoya, a super hub port. In addition to various earthquake-resistant facilities, the world's first remote automatic RTG was introduced from the time of opening it can endure a big earthquake such as Touhoku Earthquake, Hanshin Earthquake. Furthermore, in 2008, we introduced an automatic guided vehicle AGV. Since then, it has evolved as Japan's first automated container terminal.

Since our opening, we have been supported by customers (shippers, transportation companies), public and private port-related parties, and local residents. Thanks for them, there were no major accidents, the operation rate was high, and we were able to improve and evolve as an automated container terminal, providing high-quality products at low prices and services.

The rapidly fluctuating global economy, response to ESG and CN, the overwhelming competitiveness of overseas ports, etc. The environment surrounding Japanese ports is becoming more and more severe, but even in such a situation, we will continue to contribute to the development of the Port of Nagoya as a sustainable port that continues to be selected by customers, deepen and evolve further.

Please continue to give us your support. Thank you.



### AGV (Automated Guides Vehicle) Since December, 2008

AGV is wirelessly controlled unmanned vehicle. Coupling with automated RTG and quay crane, AGV contributes to higher productivity of TCB. And it enables best efficiency by minimizing facility operation. For the safety of trucks, AGV and truck area is separated to avoid collision. Crossing gate and multiple sensors supports further safety.



AGV



Separated area



Crossing Gate Control

Name of the Facilities		TS1(Completed in Dec, 2008)	TS2(Completed in Dec, 2005)
Area Size	Quay / Yard	42,750m <sup>2</sup> /311,750m <sup>2</sup>	Total : 354,500m <sup>2</sup>
	Length	350m	400m+(50m)
Berth	Water Depth	-16m	
	Type	Rope-trolley / Mono-Box	
Quay Crane	Number of Cranes	3	3
	Lifting Capacity	45t(Container), 65t(Heavyweight Cargo), 50t(Hatch Cover)	
	Outreach	63m (59m from wharf) / 22 rows	
Gate	Number of Lanes	In: 6 / Out: 6	
	Storage Capacity	7,920TEU* (Ground Slots: 1,980)	9,768TEU (Ground Slots: 2,442)
Container Yard	Inspection Yard etc.(GS*)	275TEU (Custom Inspection) / 104TEU (DG) / 162TEU (Reefer)	
	Number of Cranes	25	
RTG*	Lifting Capacity	40.6t	
AGV*	Number of Vehicles	34	
Reefer Facility	Number of Receptacles	240(440V)	

\*GS : Ground Slot \*RTG : Rubber Tired Gantry Crane \*AGV : Automated Guided Vehicle \*TEU : Twenty-foot Equivalent Units

### IN GATE / OUT GATE

In-Gate processes the reception of incoming and outgoing containers. Gate system automatically scans the truck's license plate, immediately linked with container information transmitted by trucker's RFID and indicates the best location depending on the container profile all automatically.

At Out-Gate, by inputting damage information onto RHT (Radio Handy Terminal) all the procedure is done without clerk.



In Gate



Out Gate

### AUTOMATED RTG (Rubber Tired Gantry Crane)

The world's first automated RTG(Rubber Tired Gantry Crane) has been developed. It is superior on the points of less capital investment compared with RMG, the ease of lane switching and the seismic disaster.

The transfer with AGV is full automated and the one with trucks is semi-automated.



RTG&Trailer



RTG&AGV

### QUAY CRANE

The mega cranes rising on berth meets the largest class 22 row vessels. The structure with seismic isolator by fixing jacket endures large-scale earthquake so that quay facility is safety.



Quay Crane



Quay Crane&AGV

### REMOTE OPERATION ROOM

At remote operation room, a few operators operate unmanned RTG's on the monitors. This will contribute to the aging society and the improvement of working environment.



Operator Desk



Remote Operation Room