

4 t h A P L F

G e n e r a l M e e t i n g , S e o u l

**T h e U n i t - l o a d S y s t e m
U t i l i z i n g t h e P a l l e t**

K a z u y a S h i m o i z u m i

V i c e - P r e s i d e n t o f J a p a n P a l l e t A s s o c i a t i o n



Profile of Kazuya Shimoizumi

Present post :

Vice-president of Japan Pallet Association
General Manager of Corporate Marketing,
Dainippon Ink&Chemicals, Incorporated

Career :

1947/3 Born in Tokyo
1970/3 Graduated from Keio University, faculty
of Economics
1970/4 Joined Dainippon Ink&Chemicals, Incorporated
(DIC)
1984/7 Sales Manager of Plastic Pallet&Container
Division(DIC) Manager of Japan Pallet, Inc
1985/4 Manager of Plastic Department,
Japan Pallet Association
1992/5 Director, Vice-president of
Japan Pallet Association
1992/7 General Manager of Corporate Marketing, DIC



4th APLF Lecture Subjects

Kazuya Shimozumi

Vice-president of Japan Pallet Association
(General Manager of Corporate Marketing
Dainippon Ink & Chemicals, Incorporated)

1. Concept of Unit-load

- 1-1 What is Unit-load?
- 1-2 Background of Unit-load debut
- 1-3 Development of Unit-load equipments
- 1-4 Unit-load and Pallett
(from wood to plastic)

2. History of Unit-load and Plastic Pallet

- 2-1 History of Plastic Pallet
- 2-2 Coming Unit-load era and Plastic Pallet

3. Forward subject

- 3-1 Progress of the new era by "New Comprehensive Program of Logistics Policies"
- 3-2 Look out for the reality, and consider the mechanism



1 . Concept of Unit-load

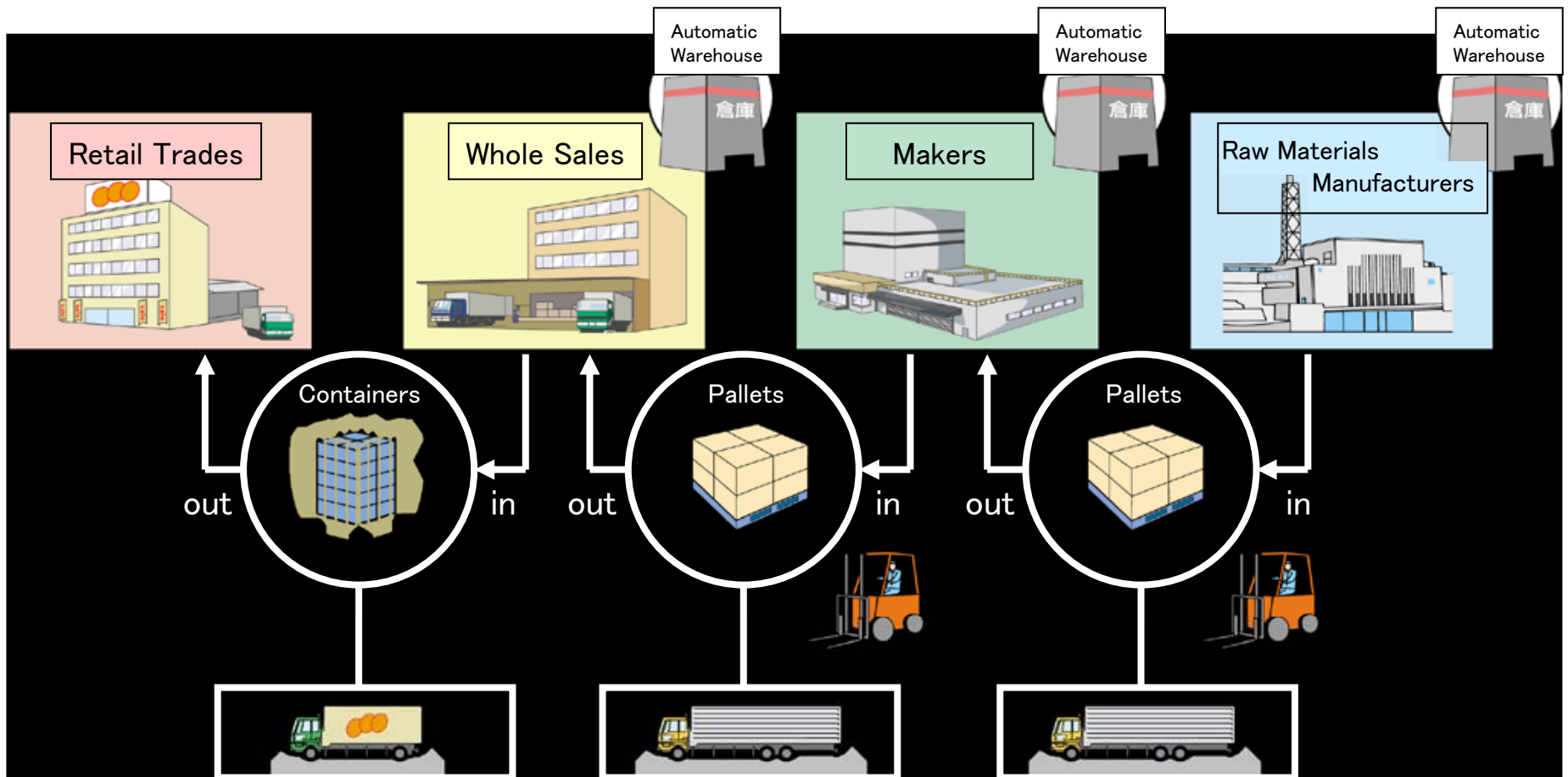
1 - 1 What is Unit-load

Unit-load is the cargo which packed some articles or packing cargo into one unit so that it may be suitable for the handling by the machine or the instrument, in order that the logistic activity of transportation, storage, cargo work, etc. is performed rationally.

→What is Unit-load System?

It is the system which mechanizes cargo work and mechanizes or rationalizes transportation, storage, etc. in forming the Unit-load.

Scheme of Unit-Load System (Image)





1 - 2 Background of Unit-load debut

1 - 2 - 1 Background

- ① Development of economy
 - Increase of the amount of logistics
- ② Labor force shift to tertiary industry
 - Reduction of weight cargo work labor
- ③ Aging of the logistic distribution spot and Practical use of the female labor force
 - ⇒ Change of the balance of the supply and demand of the labor force
- ④ In the time of Speed
- ⑤ Improvement in the importance of a quality control



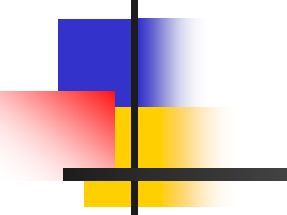
1 - 2 - 2 Merit of Unit-load

① Increase in efficiency of Cargo work

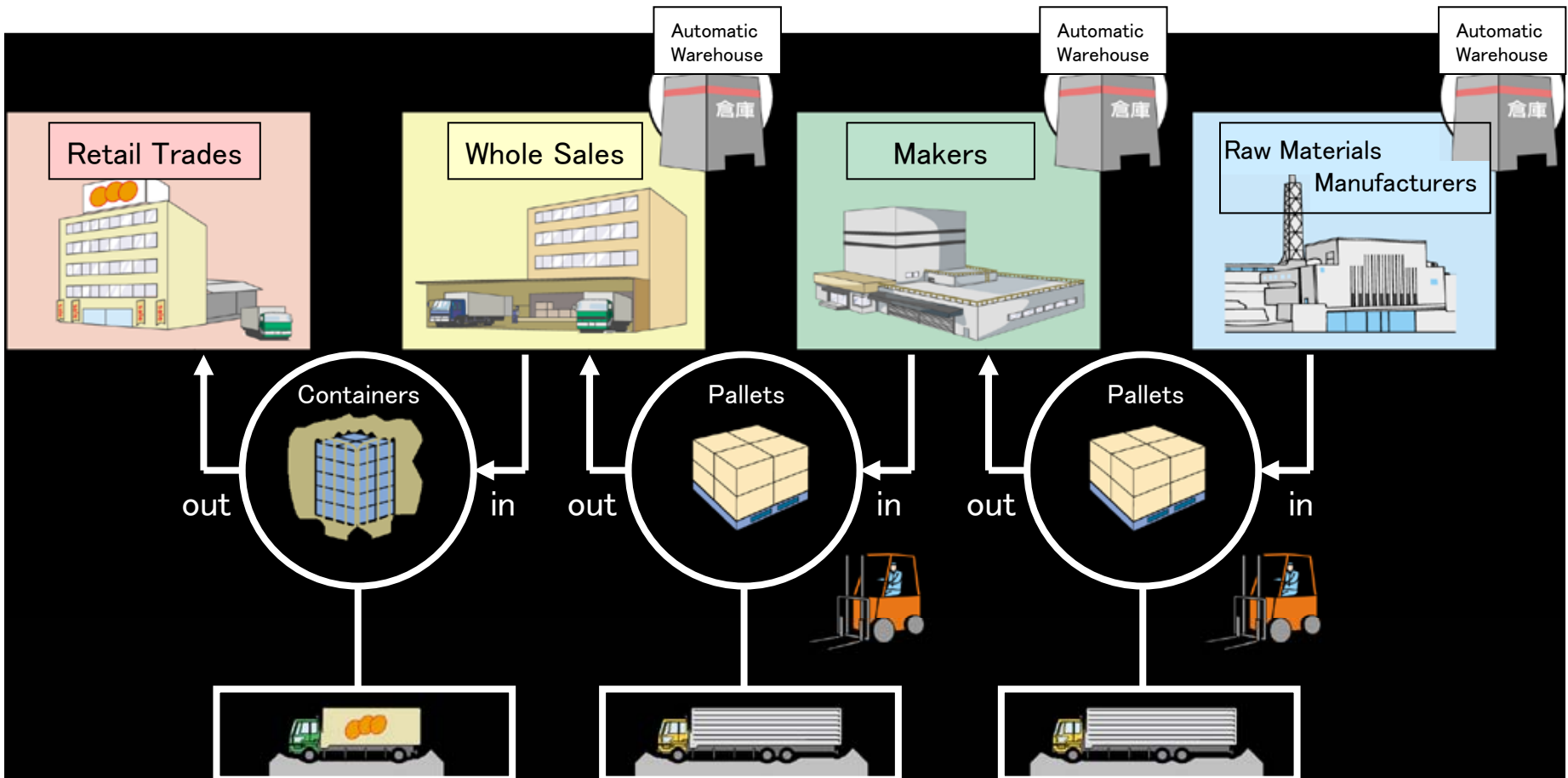
Effective use of a forklift or a conveyer causes the dissolution of manual cargo work, the improvement in the safety of work, the shortening of working hours and the curtailment of work staff.

⇒ Investigation of the Laborsaving Effect by Unit-load
(Investigation by Japan logistic system association)

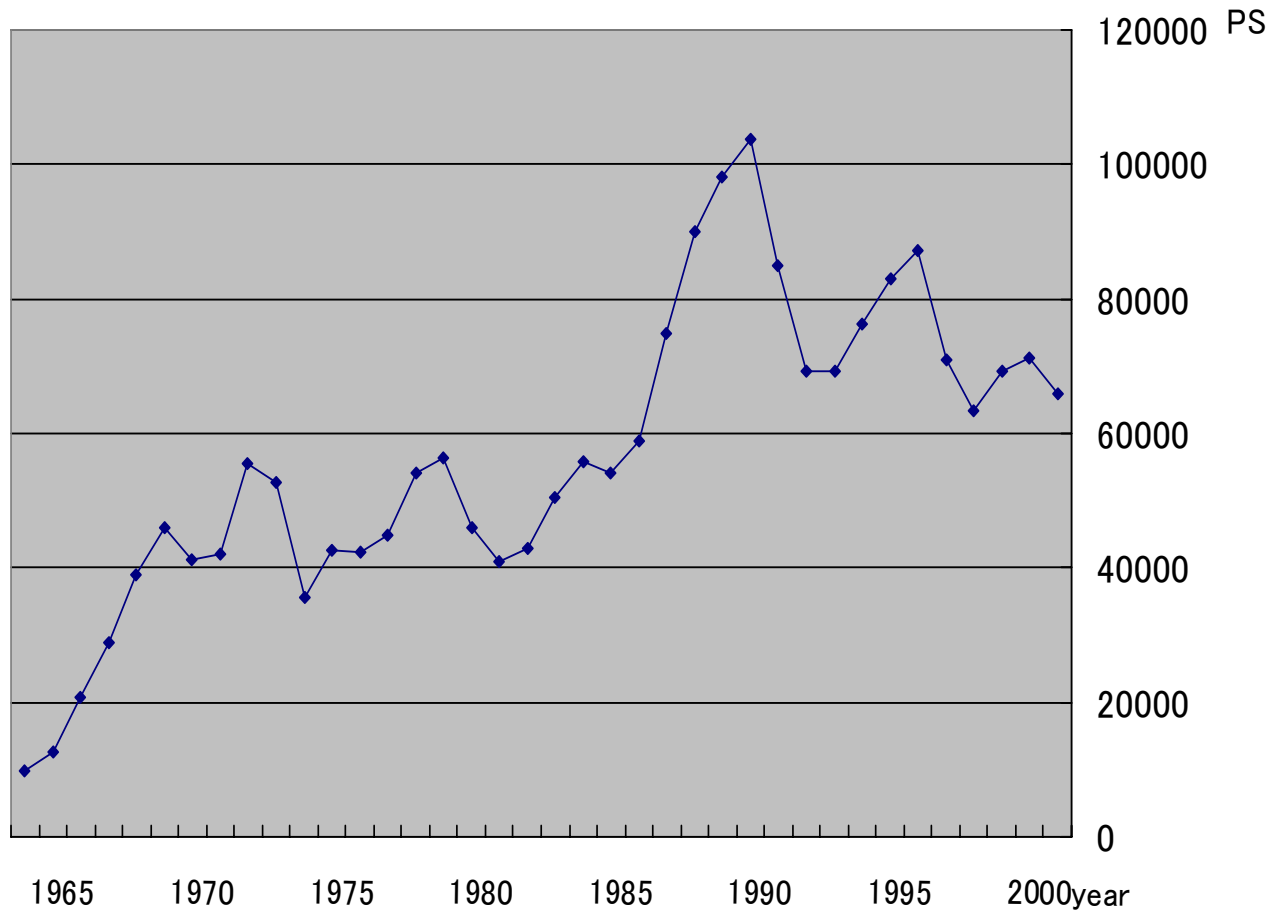
Contents	Unit	Before introduction	After introduction	Effect of introduction
Loading tracks or containers	5 m/t Container	3persons*30minutes	1person*5minutes	94.4%
Discharging(unloading) tracks or containers	5 m/t Container	3persons*30minutes	1person*5minutes	94.4%

- 
-
- ② Simplification of in-and-out warehouse management
The simplification of in-and-out warehouse management is effective for reducing mistakes and mitigation of inspection work.
 - ③ Improvement in a management level
The management in the pallet or container unit makes Location management and stock management easy.
 - ④ Cost down of packaging
The simple packaging, which has resistance of bruise on loading, is possible to cut down its own cost.

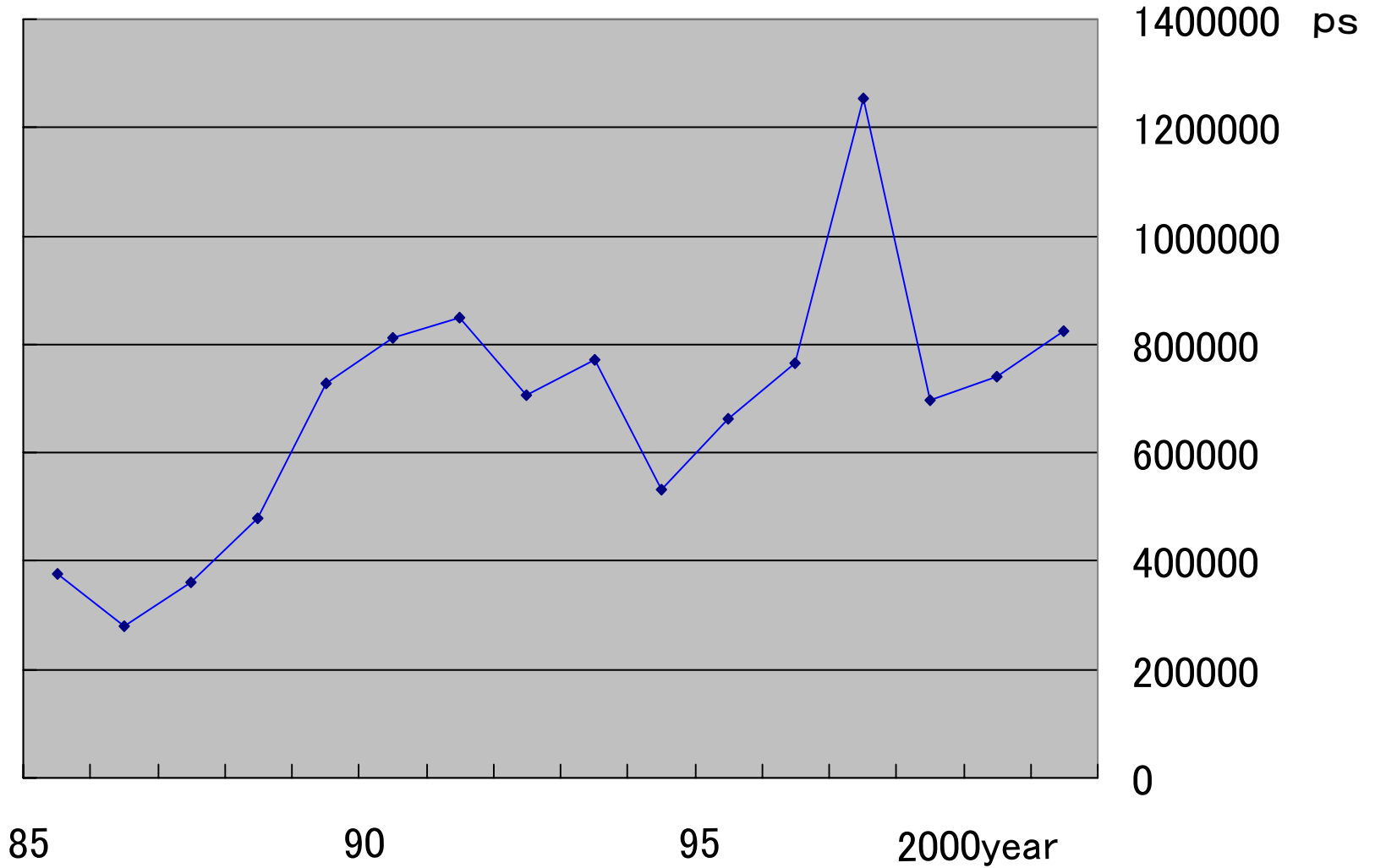
1 - 3 Development of Unit-Load Equipments



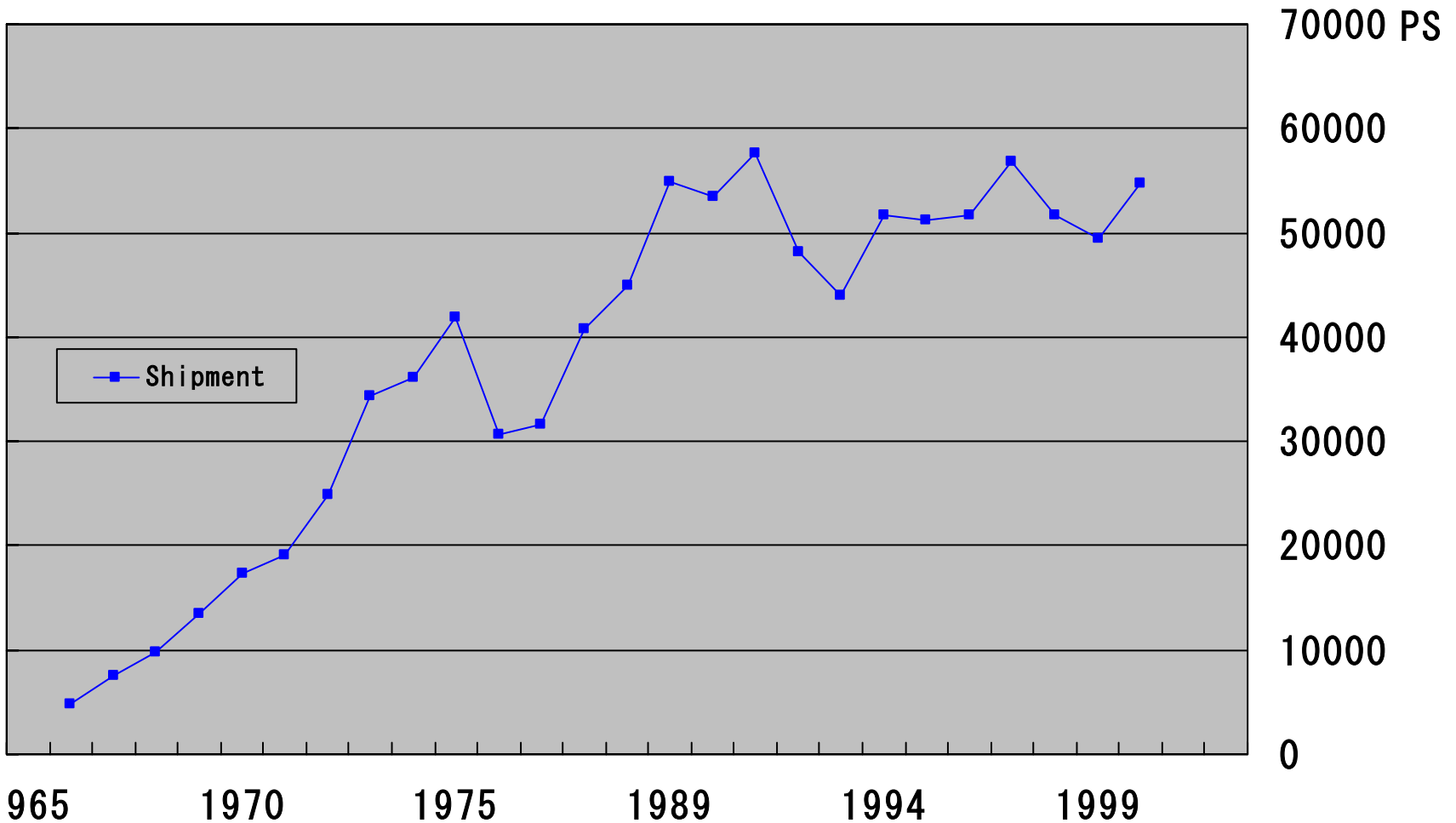
1 - 3 - 1 Historical Date of Shipment on Forklift



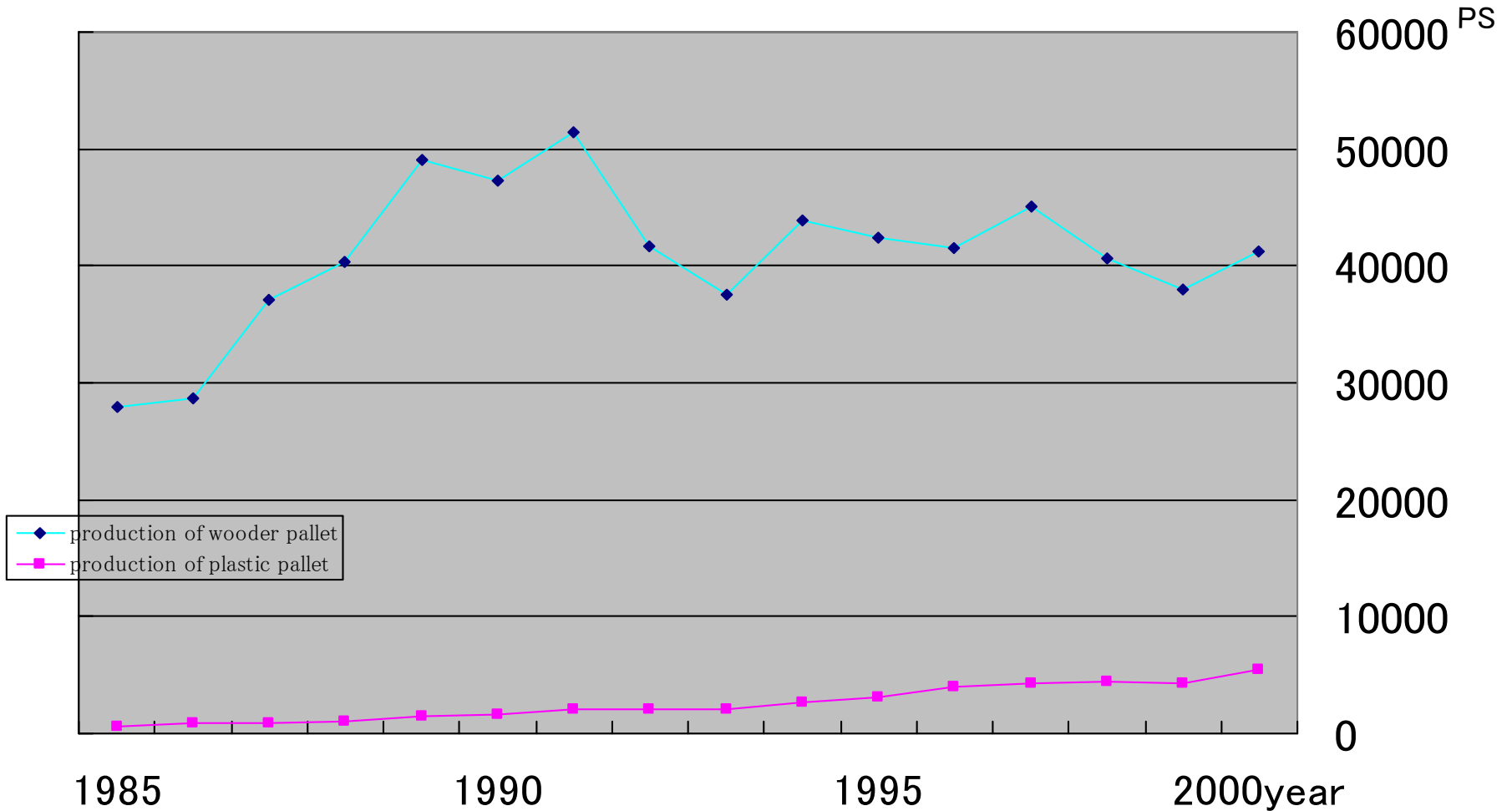
1 - 3 - 2 Historical of AS / RS



1 - 3 - 3 Historical Date of Shipment on Pallets

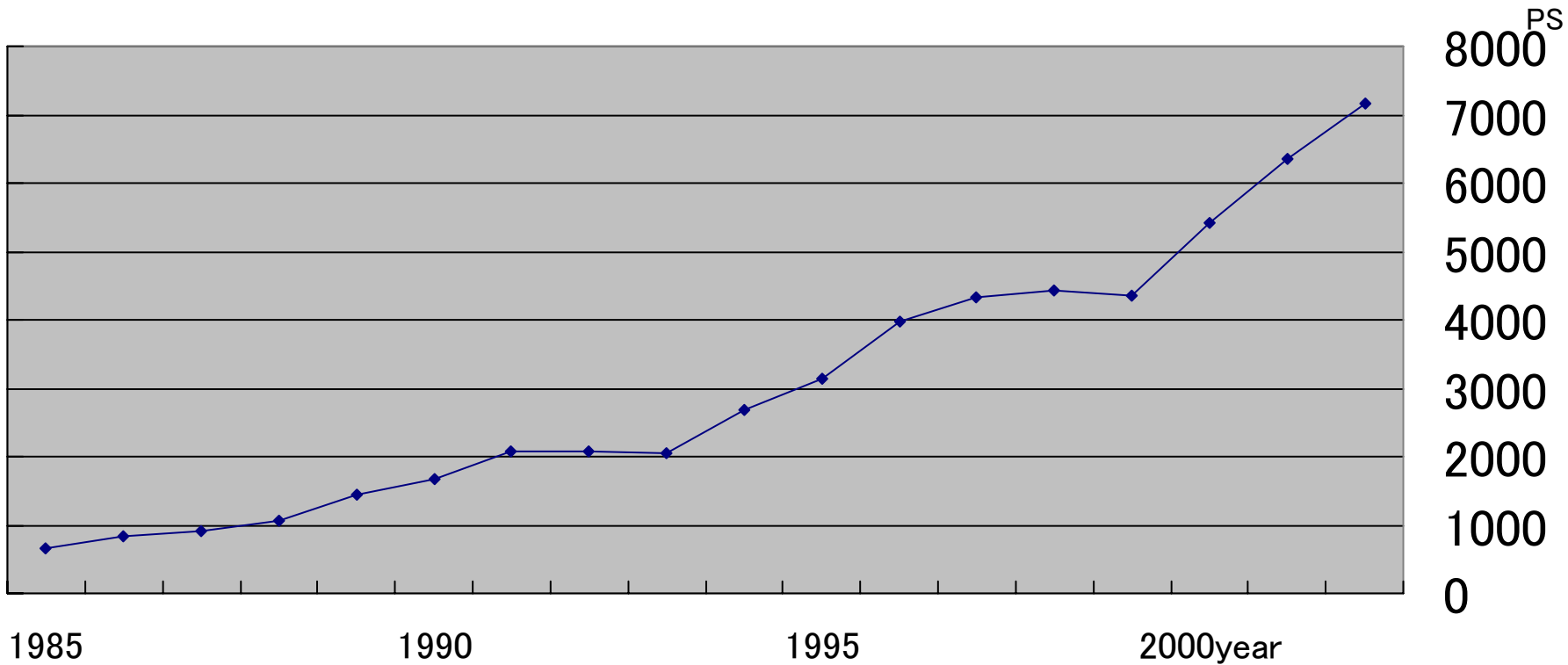


1 - 4 Unit - Lord and Pallet (from wood to Plastic)



2 History of Unit-Load and Plastic Pallet

2-1 History of Plastic Pallet





2-1-1 The dawn of Plastic Pallet in Japan

- 70's -

Replacing from the wood pallet started gradually

In food or medical fields for storage use

→ problem : price / 3 times as expensive as a wooden pallet easy to slide

2-1-2 Linkage with plastic recycling activities

- 80's -

The plastic recycling has been needed been replaced by the one-way packaging, gradually Beer pallet came to be made of the plastic

→ The full-scale start of a plastic palette

The great cost-down was achieved by using the recycling raw materials

2-1-3 Development of the light plastic pallet

- 90's -

The various types of plastic pallets based on the demands were developed by the progress of technology

These pallets started to be used not only for storage but also for circulation

→ The replacement from wooden pallet took place rapidly



2-2 Coming Unit-load era and Plastic Pallet

2-2-1 The merits and demerits of the Plastic Pallet

merits

- *Durability
- *Light
- *Cleanness
- *Recycling
- *Size accuracy

demerits

- *Bending
- *Initial investment
- *Slide



technical progress

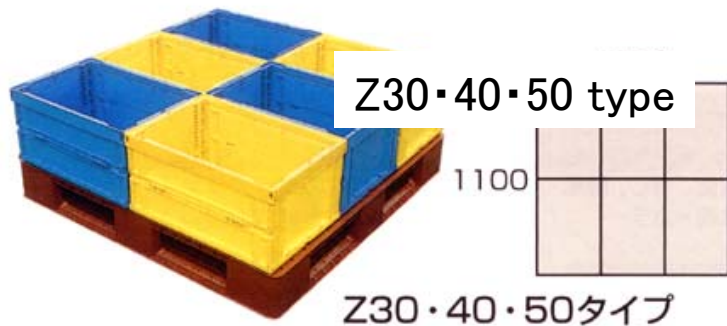
2-2-2 Relationship with the Plastic Container

Size of Plastic containers match JIS T-11(1100×1100mm) pallets

T-11 type module(Z30・40・50、Y55・75)

サイズはJIS T-11型(1100×1100mm)パレットにマッチしています。

T-11型モジュール(Z30・40・50、Y55・75)





3. Forward subject

3-1 Progress of the new era by “New Comprehensive Program of Logistics Policies”

① Comprehensive Program in 1997

3 of targets

target 1 : The most convenient and attractive service in the Asia-Pacific region

target 2 : The reasonable logistic cost which never interferes with the competitive power of industrial attraction

target 3 : The responsibility to the energy problem, environmental problem, and traffic safety, etc.



②New Comprehensive Program in 2005

target1 : The construction of the logistic market with international competitive power including the cost

target2 : The construction of the logistic system without heavy load to environment and the contribution to recycle society

Forward directivity of measures

- 1) The construction of the high-level and whole efficient logistic system for realization of the society with international competitive power
- 2) The construction of the logistic system with responsibility to the social problems
- 3) The construction of the logistic system for contribution to our life



3 - 2 Subjects

«Look out for the reality, and consider the mechanism»

**3 - 2 - 1 The present condition of the Unit- load
300 million of pallets are in the market**

However In transportation use

only **10 %** for railways

only **20 %** for trucks



3-2-2 The prevention factor of the Unit-load

- ① Size → reflection of “product out”
- ② Collection method → more rental pools of “product out”
- ③ Unit difference → use of small-unit container
- ④ Mismatch with apparatus or warehouse
→ effort for matching
- ⑤ Worries about collapse of cargo piles
→ Improvement



3-2-3 The Cost-load in 21st century

☆the target in comprehensive program

① The rate of pallet use

present 77 %



in 2005 90 %☆

② The rate of standard pallet

present 40 %



in 2005 50 ~ 60 %☆

③ Use of IT revolution

④ The Logistics good for environment and people