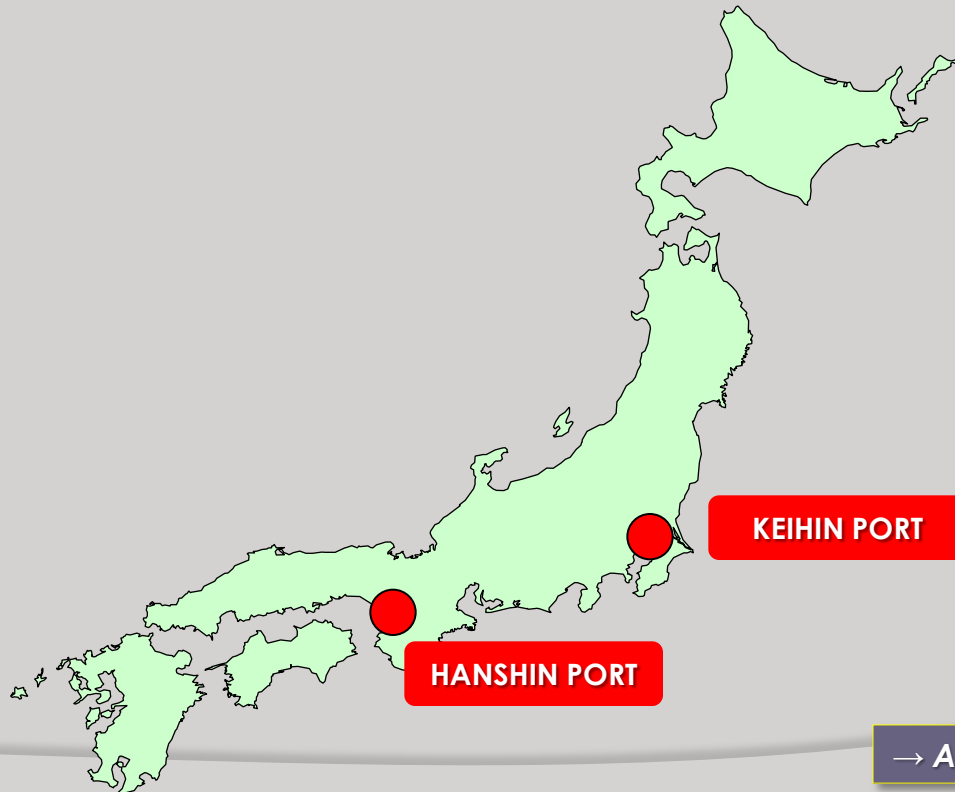# JAPAN'S PORTS – MAINTENANCE AND RENEWAL
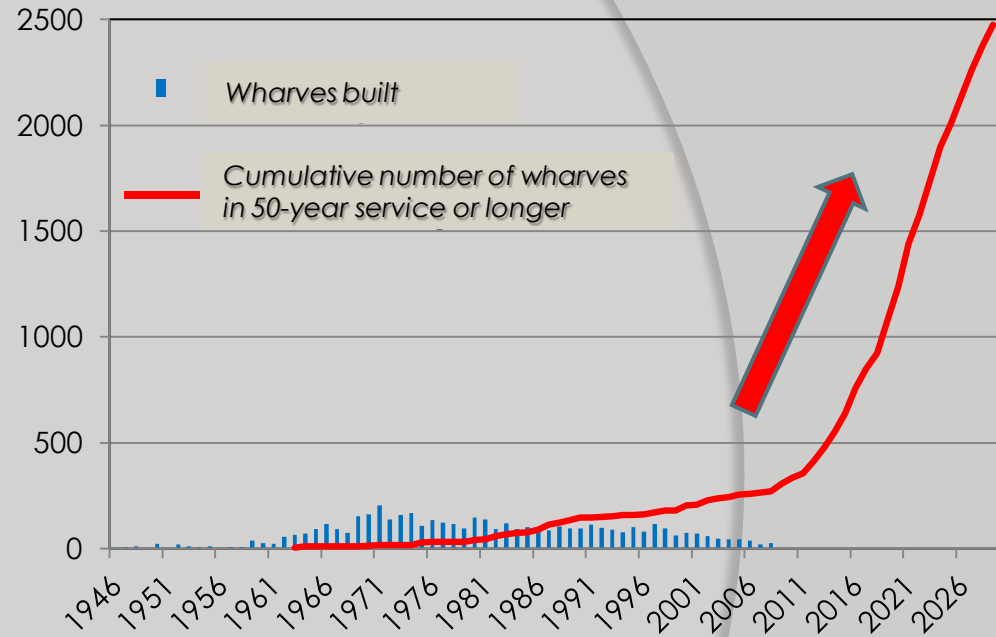
1. Ports in Japan

Out of 996 ports nationwide, the following two groups are designated as two majors along the Strategy for International Container Terminal Expansion:

➤ Keihin Port consisting of the Ports of Tokyo, Kawasaki and Yokohama
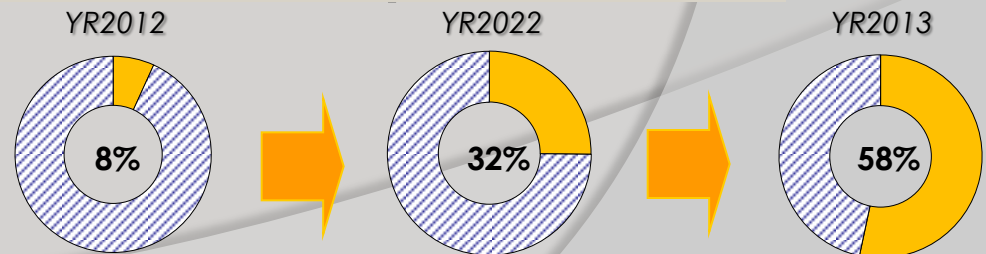➤ Hanshin Port consisting of the Ports of Osaka and Kobe

KEIHIN PORT

HANSHIN PORT

2. Aging of Port Facility

Wharves and Their Aging

■ Wharves built

▬▬ Cumulative number of wharves in 50-year service or longer

Ratio of Wharves in 50-Year Service or Longer

YR2012 — **8%**

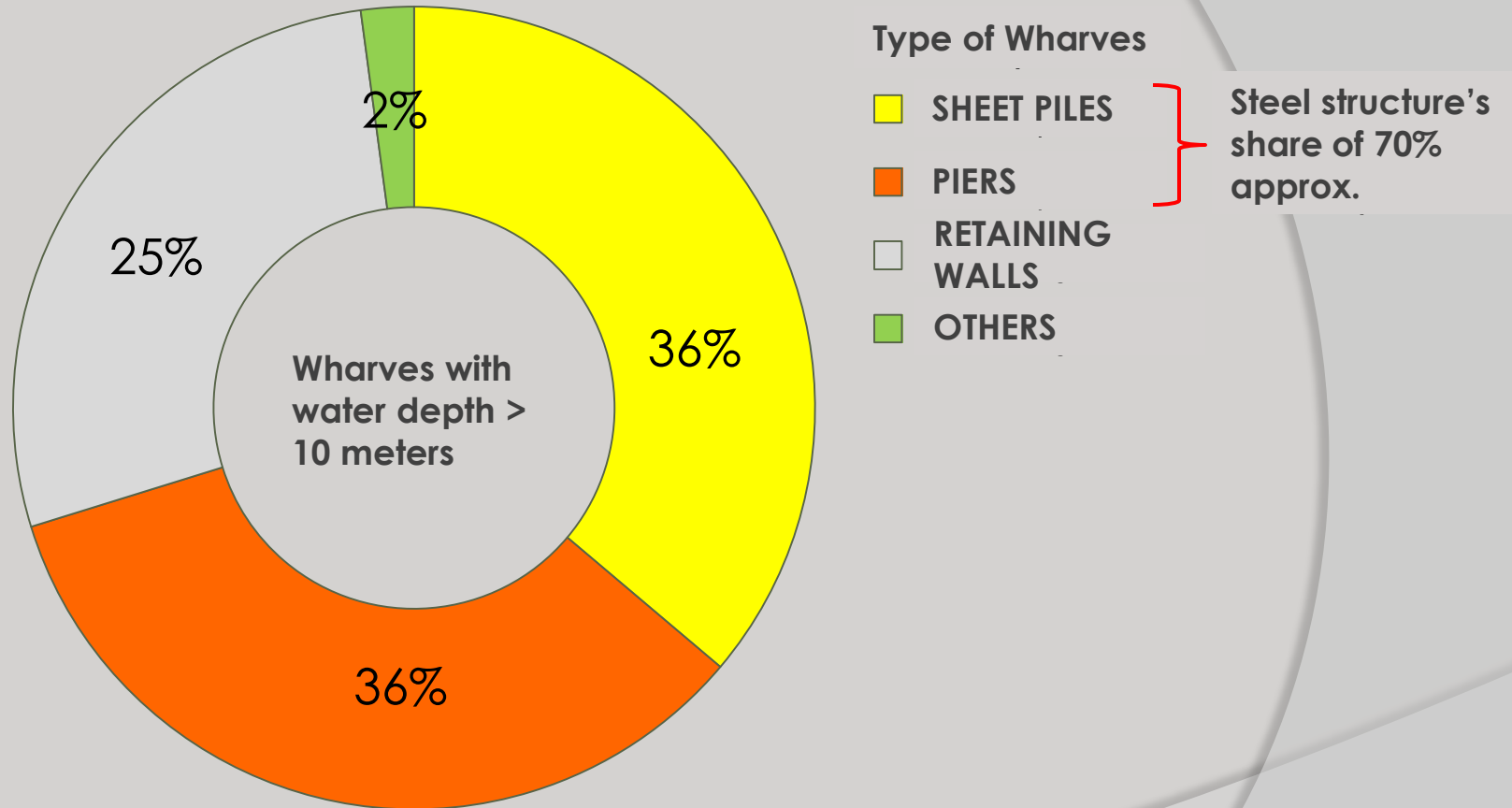YR2022 — **32%**

YR2013 — **58%**

→ *Attempts at the Port of Yokohama are shown in the following pages*
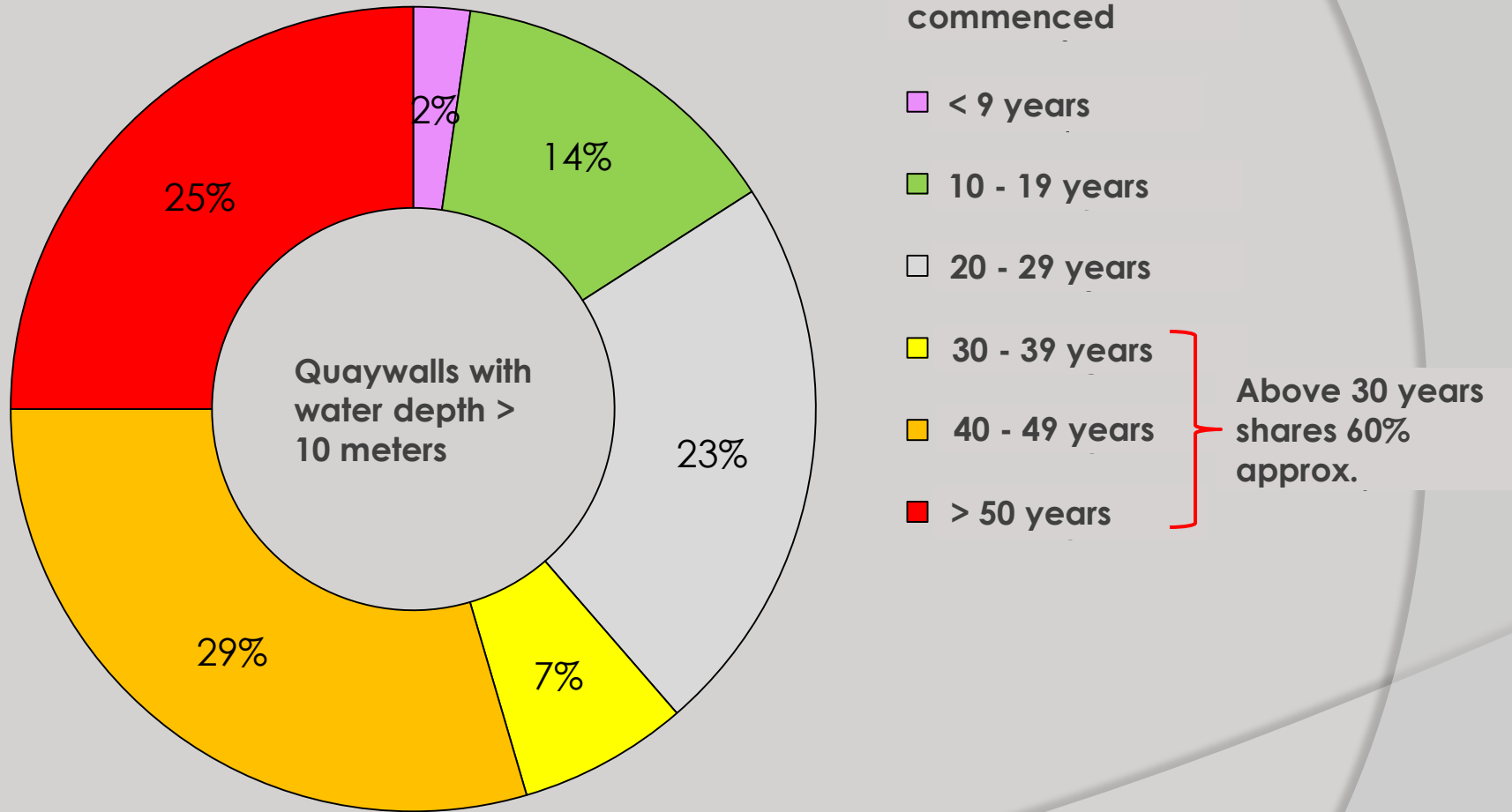
OUTLINE THE PORT OF YOKOHAMA

> ➢ *Historic port opened in 1859*
> ➢ *Developed with hinterland Tokyo Metropolitan Area*
> ➢ *Regular service counts 90 ships a week to handle approx. 2.8 million TEU.*
> ➢ *Receive about 130 large passenger boats a year*

HONMOKU WHARF

DAIKOKU WHARF

Under Construction

MINAMI-HONMOKU WHARF

STRUCTURAL TYPE – WHARVES AT THE PORT OF YOKOHAMA

AGING – QUAYWALLS AT THE PORT OF YOKOHAMA

Years after service commenced

- □ **< 9 years**
- □ **10 - 19 years**
- □ **20 - 29 years**
- □ **30 - 39 years**
- □ **40 - 49 years**
- □ **> 50 years**

Above 30 years shares 60% approx.

Quaywalls with water depth > 10 meters

2%
14%
25%
23%
29%
7%

PLAN APT MAINTENANCE OF PORT FACILITY

> ➤ *Optimize to implement maintenance program in what and when to inspect*
> ➤ *Launch preventive approach for efficient maintenance*

Convert to Preventive Maintenance
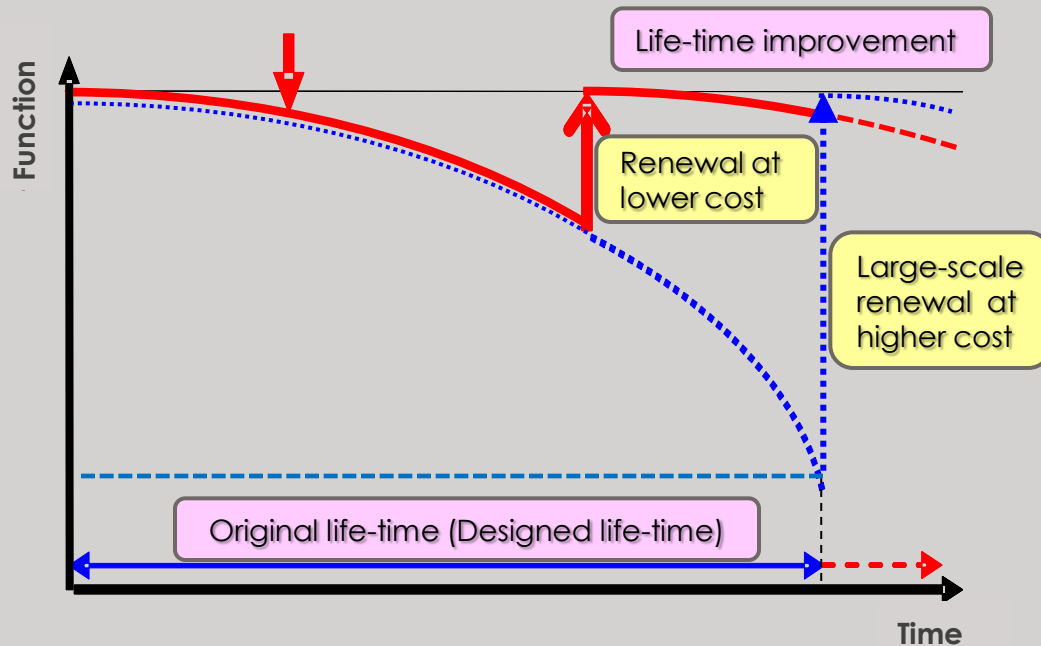
Inspection of Pier on Water Surface

Life-time improvement

Renewal at lower cost

Large-scale renewal at higher cost

Original life-time (Designed life-time)

Function

Time

IMPROVE SERVICE STANDARDS AT RENEWAL

Upgrade port functions in water depth, yard capacity and scenic amenity at renewing aged facility to meet social demands and required service standard.

Serve bigger ships

Serve more containers

Care for scenery

LARGE-SCALE RENEWAL AT THE PORT OF YOKOHAMA – EX1

Improved service by filling 40-year old comb-shaped wharf to extend deeper quay and container yard.

Improved water depth from 10-13 meters to 16 meters

HONMOKU WHARF

Abandon to fill aged
and deteriorated piers

Former Pier B

Filled

Former Pier C

LARGE-SCALE RENEWAL AT THE PORT OF YOKOHAMA – EX2

Osanbashi (Big Pier), opened 1894, served as front door for international (and local) passenger boats.
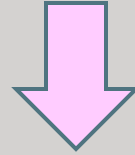
At renewal from aging, a greenery park was set up on the Pier to create scenic but bustling amenity.

YR 1965

Now