

Eurailspeed

Parallel Session C.2

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Under the patronage of



Organisers



Partners



The Motor of European Railways



Media partner



40 Years of Tokaido Shinkansen

- Overview of the Recent Progress -



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Central Japan Railway Co.

Tsutomu Morimura

Features of Tokaido Shinkansen

① Safety & Reliability

No Casualties

Annual Average Delay : 0.1 minutes / train

② Large Capacity Transportation

ca. 300 Trains/day × 1,300 passengers/train

③ High Speed Transportation

Tokyo~Osaka [515km] 2hr30min

④ Harmony with the Environment

Low Noise & Vibration

Low Energy Consumption & Low CO₂ Emissions

Change and Progress

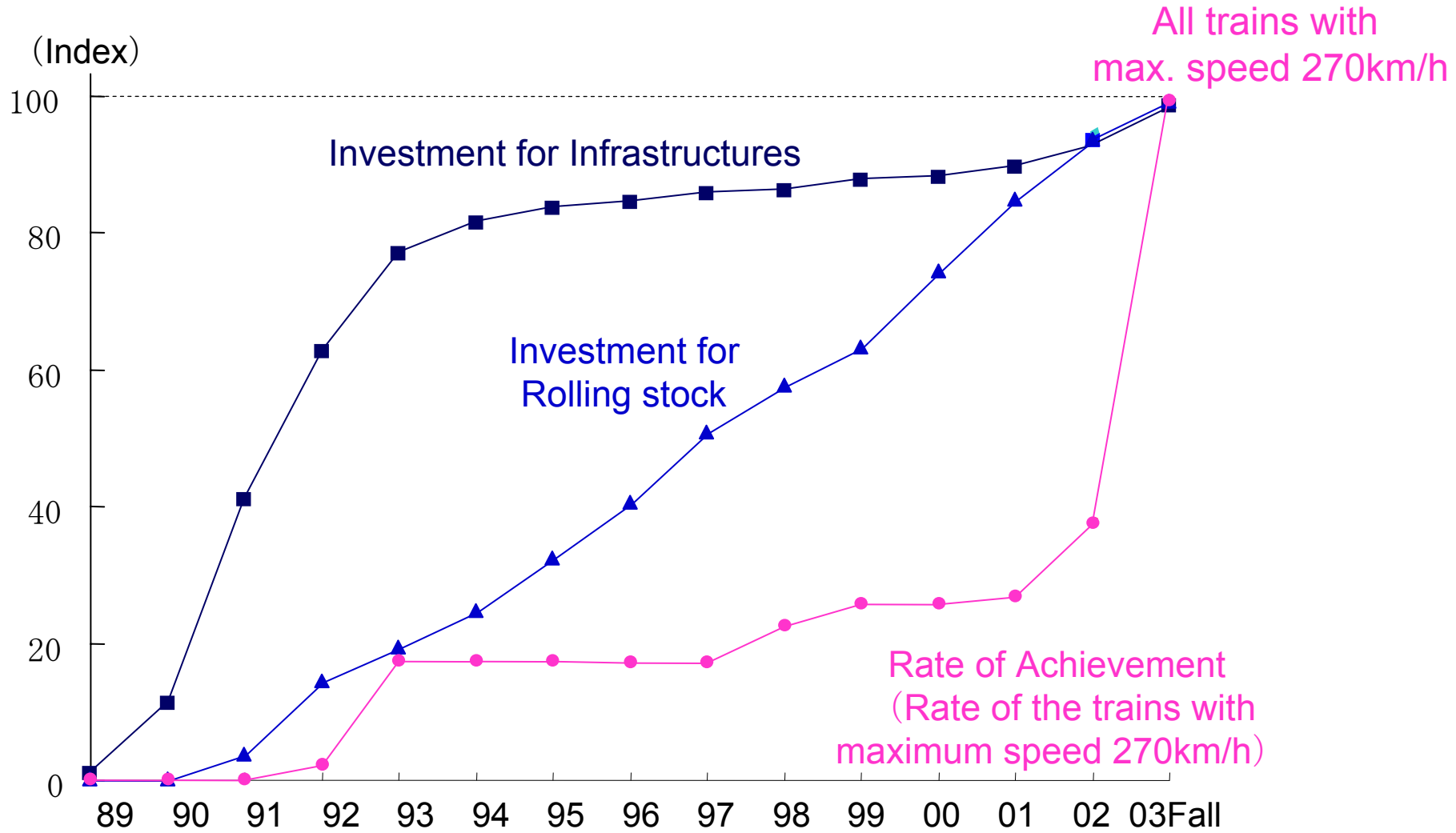
		year	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	Future Plan
Visible	Rolling stock				▼Series 300													▽Series N700
	Train Diagram				▼Nozomi Service Started													▽New ATC
	Speed up																	▽Nozomi: Tokyo-Hakata Direct Service 1train/hour ▼Doubled the volume of Nozomi Service ▼Nozomi Service every 30min ▼Inauguration of Shinagawa Station, Nozomi Service:7 trains/hour
Invisible	Increase Capacity of Infrastructure		Power Supply Depot, Storage Track			Construction of Shinagawa Station						Power Supply						
	R&D System		300X Project		▼300X Test-running Started						Komaki			R&D Center				(Technology Development Department)

Key Factors for Our Progress

- Sound management after the Privatization(1987)
 - Improved Finance
 - Enhanced Motivations of employees
- Integrated Management of Railway System
- Progress of Technologies in the Industries and Railways

Sound Management after Privatization

- Financial Improvement -

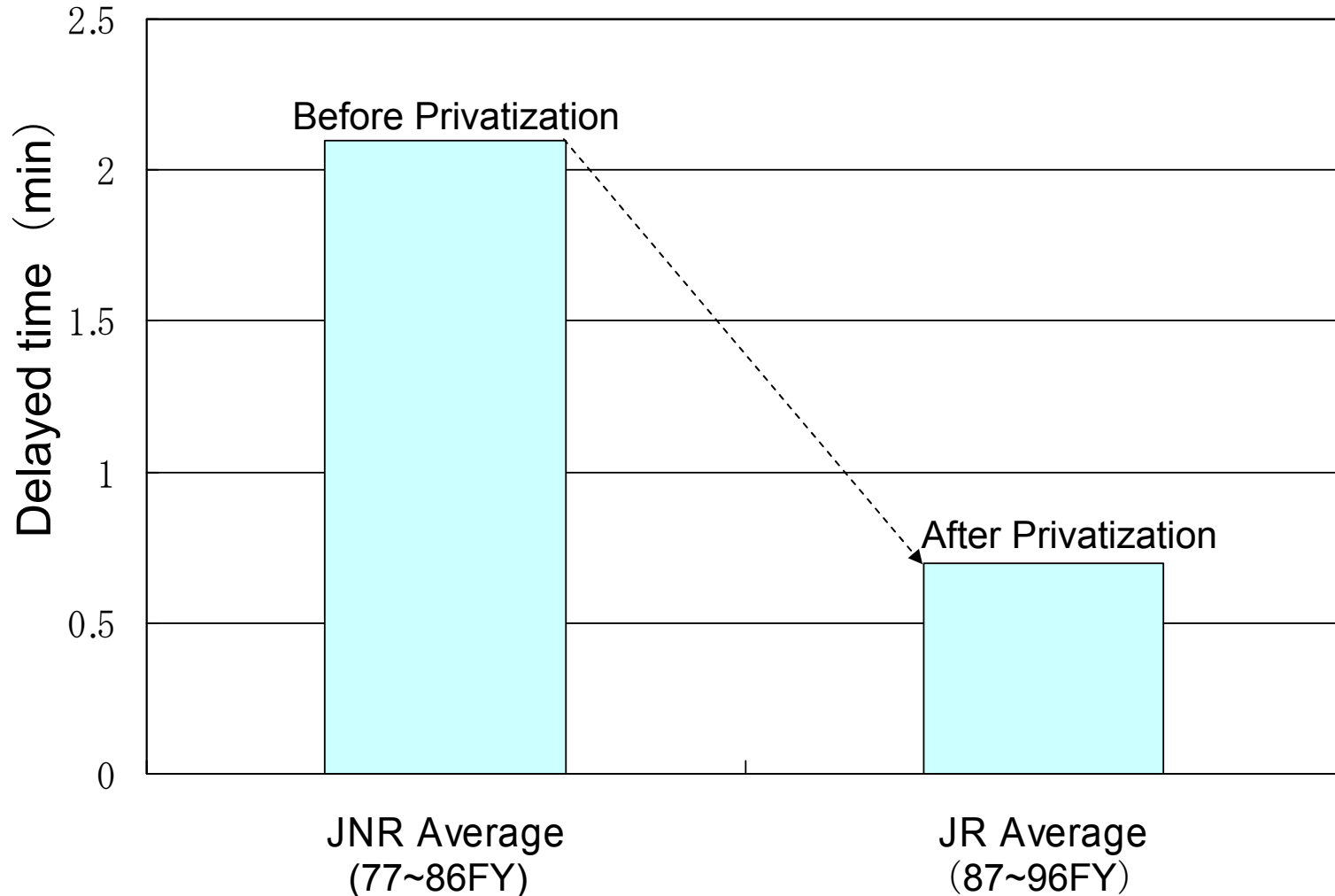


- Long-term Unwavering Decision Making is Significant in Management to Realize a Policy.
- Completion of Successive Investments leads to Policy Realization (Enhancement of Service Level)

Sound Management after Privatization

- Enhanced Motivations of Employees -

Transition of Annual Average Delayed Time per Train



Integrated Management of Railway System

Seamless Integration and Management of Rolling Stock and Infrastructure
,and the Hardware and Software Elements

Integrated Management of Railway System

Hardware

- Rolling stock
- Ground Facilities, Track
- Power Supply, Signal
- Anti-disaster Equipment
- Train Safety Protection Device

Software

- Safety Management Organization
- Education of Employees
- Maintenance Work
- Running Operation

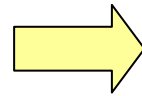
Progress of Technologies in the Industries

(Example) Innovations in Power Electronics Technologies

○ Latest large capacity power device: I G B T



G T O thyristor

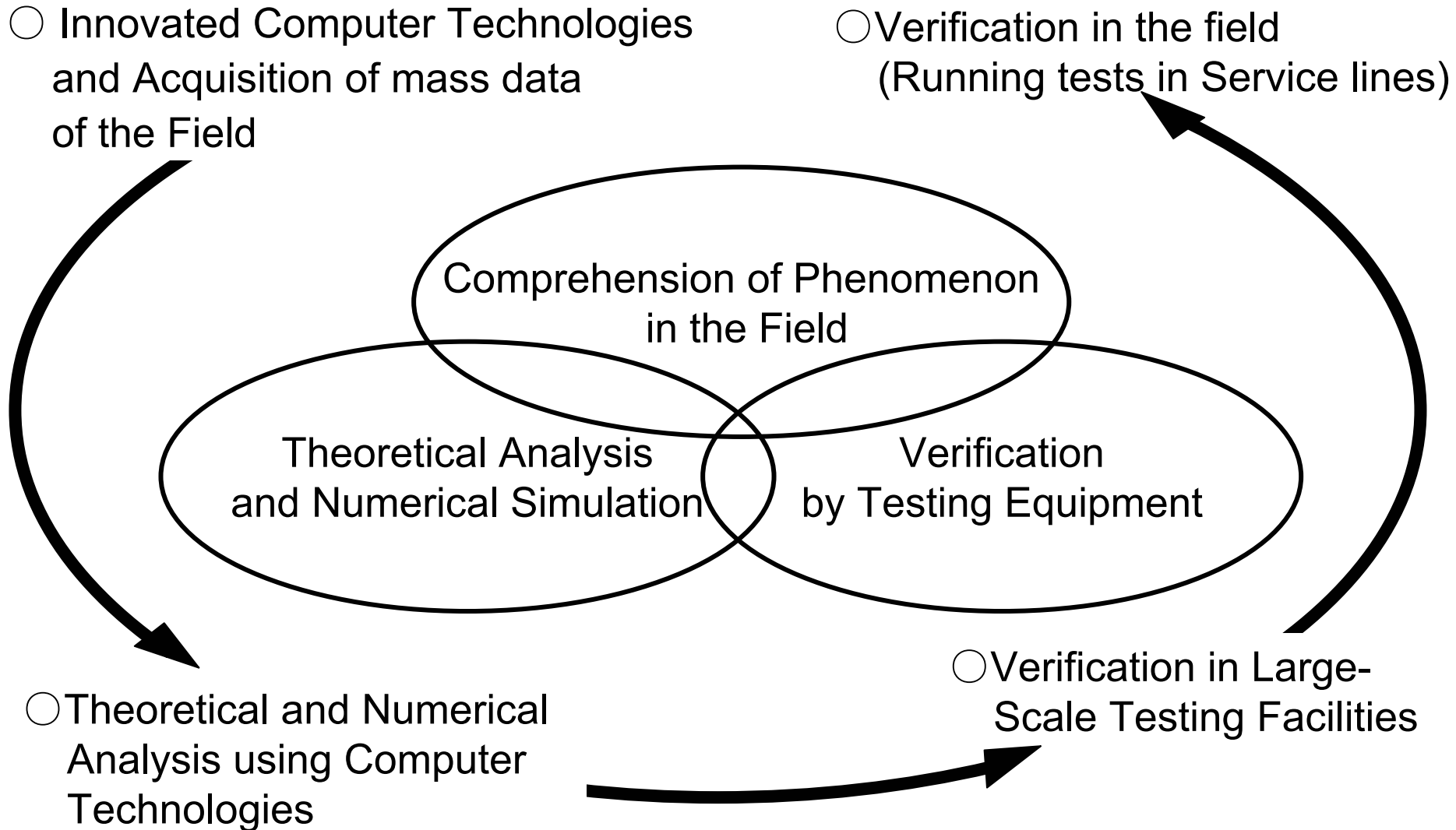


I G B T

(Example) Innovations in Computer Technologies

Progress of Technologies in Railways

Basic Cycle for R&D of Railways



Progress in R&D for railways

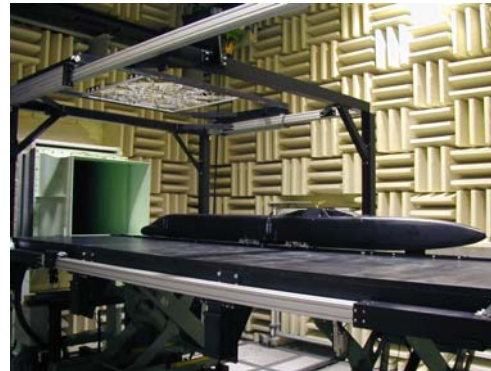
Innovated Computer Technologies and

Acquisition of mass data of the Field

— Shinkansen Experimental Train 300X —



Verification in Large scale Testing Facilities
in Komaki (the research complex of CJR)



Our Objectives

The research and development for Shinkansen in Komaki will be a continual pursuit of the superiority of a railway system in regard to even more reliable, convenient, comfortable and environment-friendly qualities that will, we hope, be chosen by more passengers than ever.