

Railway Network in Asia



*Source : Ministry of Transport Malaysia

Singapore-Kunming Rail Link

- Distance = 6,617km
- Alignment = Meter Gauge (1,000 mm)
- Proposed during 5th ASEAN Summit, Bangkok 1995
- To facilitate trade, tourism & inter-border movement
- To be linked with Trans-Asian Railway Network
- Members:
 - Cambodia
 - Lao PDR
 - Malaysia
 - Thailand
 - Vietnam
 - Myanmar
 - People's Republic of China

STATUS

- On-going development:**
- Lao PDR-People Republic of China
 - Malaysia Upgrade: Gemas-Johor Bahru
 - Thailand Double Track Upgrade
 - Vietnam Rehabilitation & Upgrade
- Planning stage:**
- Cambodia-Vietnam: New alignment
 - Myanmar-Thailand: New alignment
 - Lao PDR: New alignment
 - Cambodia: Upgrade & Rehabilitation
 - Vietnam: Upgrade & Planning

TRACK WORK



INTELLIGENT RAILWAY



CONCRETE SLEEPERS & BEARERS



ROLLING STOCK AND INTERIOR SYSTEM PROVIDER



RAILWAY ELECTRIFICATION



PASSENGER INFORMATION DISPLAY SYSTEM



LIGHTNING PROTECTION AND EARTHING SYSTEM



BACKUP POWER SOLUTIONS



DESIGN AND PROJECT MANAGEMENT SOLUTION



THE NEXT REVOLUTION OF URBAN TRANSPORTATION



RAILWAY MAINTENANCE



FARE COLLECTION SYSTEM AUTO



One Team One Dream

MARIC is a voice for rail industries in Malaysia;

- Bringing the rail industry and the government together
- Provide the consultation in railway business and development
- Provide knowledge of the latest technologies in the railway industry
- Provide training for industry
- Provide research in railway business and system
- Networking (domestic and international) Exchange knowledge and expertise

Industry Overview

Malaysian railway has existed for more than 130 years, from transporting tin ores in 1880s to fully electrified system in 1995. Moving forward Malaysia will be having a high-speed rail system, connecting Kuala Lumpur to Singapore.

Malaysian Rail Fact Sheet

- More than **80 local companies**
- Top **3 world** Monorail manufacturer
- Consist of more than **80% SMEs**
- Providing technical support and expertise to ASEAN countries and Middle East
- Number of workers **22,000 worker***

* Not including attrition rate of 3-5% inter-sectoral movement and potential job upsurge in ASEAN & Middle East

Projections

- Projection of professional workers in 2030 **100,000 workers**
- Demand for rail technical manpower in 2022 **23,600 worker**

Project Value



Asset



SERENDAH SMART CARGO HUB ECONOMIC activities



EAST COAST RAIL LINK (ECRL) PROJECT



Source : MARIC

ELIGIBILITY REQUIREMENT

- Criteria:
- Local equity/shareholding must be 51% or more;
 - At least 70% of Senior Management and Executives are Malaysian;
 - The company must be doing work related to the rail industry, products, services, and/or its supporting industry.



CONTACT US

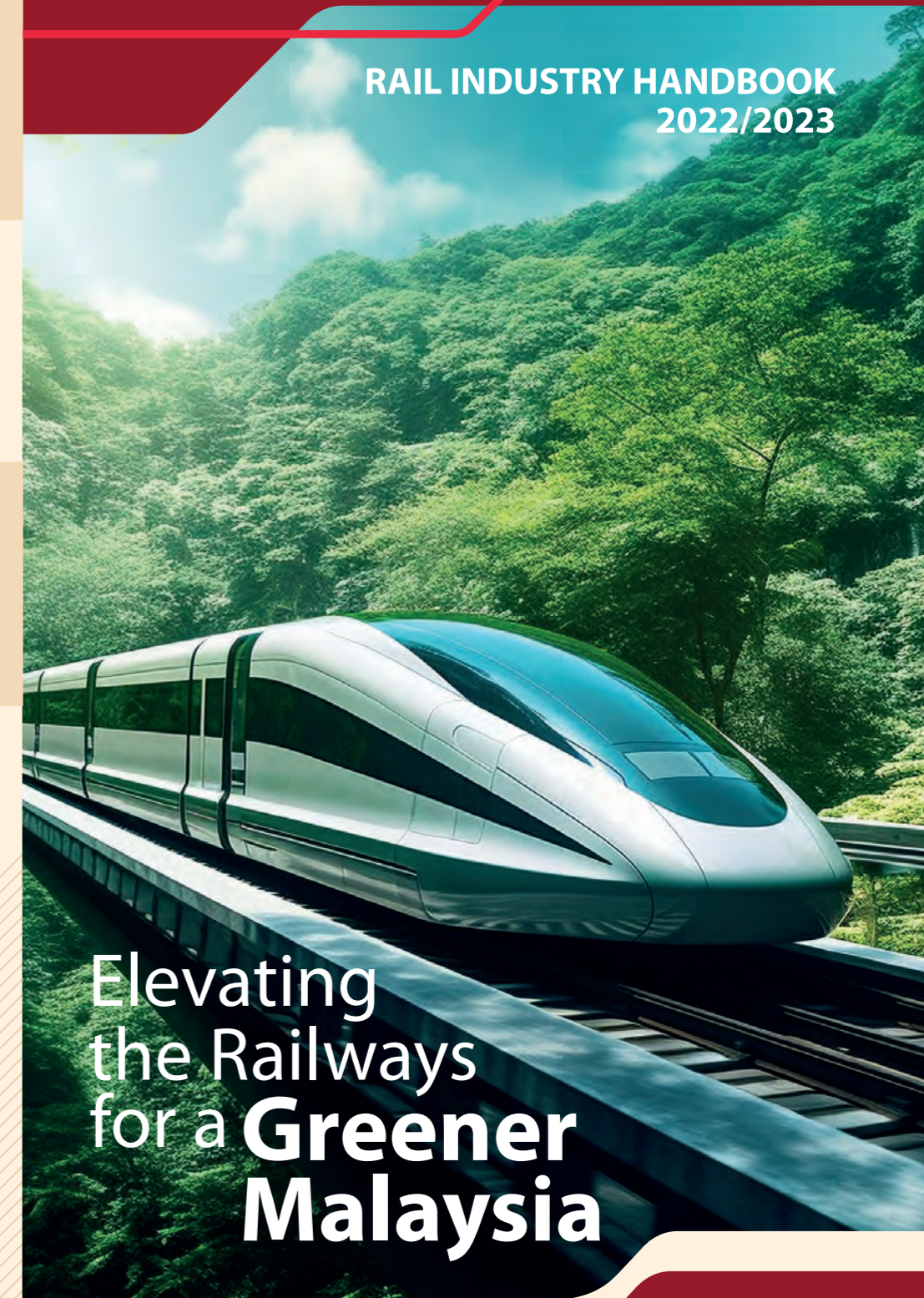
If you would like to become a MARIC member or to learn more about MARIC, kindly drop an email to: enquiry@maric.my

Or visit www.maric.my

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RAIL INDUSTRY HANDBOOK 2022/2023



Elevating the Railways for a Greener Malaysia



MARIC offers End-to-End System Capabilities

MARIC PARTNERS

SIGNALLING

- Azti Technology
- CMC Engineering
- Global Rail

COMMUNICATION

- Aim Solutions
- D'Amante
- EV Dynamics
- Sapura
- Willowglen
- XMT Technologies

TRACK WORKS

- Asiakom
- Dhaya Maju Infrastructure Asia
- Emrail
- Lion Pacific
- Mastrak
- Trackwork & Supplies
- TWA Malaysia

ENGINEERING DESIGN & CONSULTANTS

- Infra Mobility
- HSS Integrated
- Khairi Consult
- Megajati Consult
- Mutiara Perlis
- OPUS

POWER & ELECTRIFICATION

- Info-matic Power
- Global Lightning Technologies
- Pestech
- VIP Engineering

ROLLING STOCK

- Amantronic
- Artic Rail
- CKM Landas
- CTRM Composite Engineering
- DK Composite
- DOM Industries
- Dreamedge
- ERL Maintenance
- Hartasuma
- Majestic Engineering
- Malnaga
- Perencana Dingin
- Scomi Engineering
- UMW M&E

SYSTEMS INTEGRATOR

- IJM Corporation
- MMC Engineering

AUTOMATED FARE COLLECTION

- IRIS Corporation
- Techstore Malaysia
- Teras Technology

Insights of MARIC

MARIC, established on April 17, 2017, by the Malaysian Industry-Government Group for High Technology ("MIGHT"), leads high-value technology and innovation initiatives in the nation's rail sector. MARIC's members are the key players within the rail industry with active involvement in rail-based projects for the last 30 years. In a rail project, system engineering constitutes 40% of the total cost, with the remaining 60% allocated to infrastructure or civil works. The system works are organized into seven clusters: Power and Electrification, Signalling, Communication, Track Works, Rolling Stock, Automated Fare Collection (AFC), and Consultancy.

It involves creation of new sources of revenue by converting the assets into economic value.

MARIC teams up with the rail operators to provide better value for rail services through monetising the data collected on passenger preferences, ticketing, digitalised rail services, and train running on various services, systems, safety, technologies, and operations.

Target 1 Improve Revenue (fare & non-fare)

Strategy 1 Improve Revenue (fare & non-fare)

Strategy 2 Commercial exploitation of property

Target 2 Reduce Cost (capex & opex)

Strategy 3 Outsourcing and franchising operations

Strategy 4 Leasing and pools of assets (e.g. ticketing system, rolling stock, advertising)

Strategy 5 Big Data

CREATING SEAMLESS CONNECTIVITY AND PASSENGER'S EXPERIENCE IN URBAN MOBILITY PASSENGER

It is time for MARIC to deliver new innovations in rail business model and make more efficient use of the existing infrastructure. Among the locally developed innovations that are promoted to be commercially and technically ready for instant development are:

- PIES (platform Intrusion Emergency Stop)
- PIDS (Passenger Information Display System)
- SCADA (Supervisory Control and Data Acquisition), Asset Management and Monitoring System
- Open Mobility application platform:
 - Smart ticketing
 - Seamless journey planner
 - Smart navigation for daily commuter
 - Open Mobility application platforms:

The Passenger:
Always Connected on the Journey

The Operator:
Cost-efficient and digitalised

RAIL ASSET MONETIZATION

RAIL JOURNEY IN MALAYSIA

1880-1900 Early Beginning

- Building railway tracks in Semenanjung and Sabah: Seberang Prai, Perak, Selangor, Kuala Lumpur, Seremban, Kota Bharu.
- First railway track opened: - Semenanjung: Taiping to Port - Weld on 1st Feb 1885.
- Sabah: Weston to Beaufort in 1896.



1900-1950 Great Expansion

- More railway track expansion in Peninsular Malaysia until Singapore and in Sabah.
- Malaysia-Singapore Causeway Rail Track



1950-2000 Modernisation

- Class 20 Diesel Locomotive built by English Electric Co, England (1957)
- KTMB Class 23 Locomotive built by Hitachi, Japan (1983)
- STAR LRT: 2 car set of PUTRA LRT (1998)



2000-2018 Improvement



- The ERL KLIA Ekspres is an express airport rail link servicing the Kuala Lumpur International Airport (KLIA) commences operation 14 April 2002.



- PRASARANA introduced 4-car LRT (2009).



- KTMB introduced SCS Class 92 (2012).
- ERL started service to KLIA2 on 2nd May 2014.
- 2018: KTM Subang - Skypark service started.



- July 2017: MRT line 1 fully operated from Sungai Buloh to Kajang.

2018-2030 Current & Future

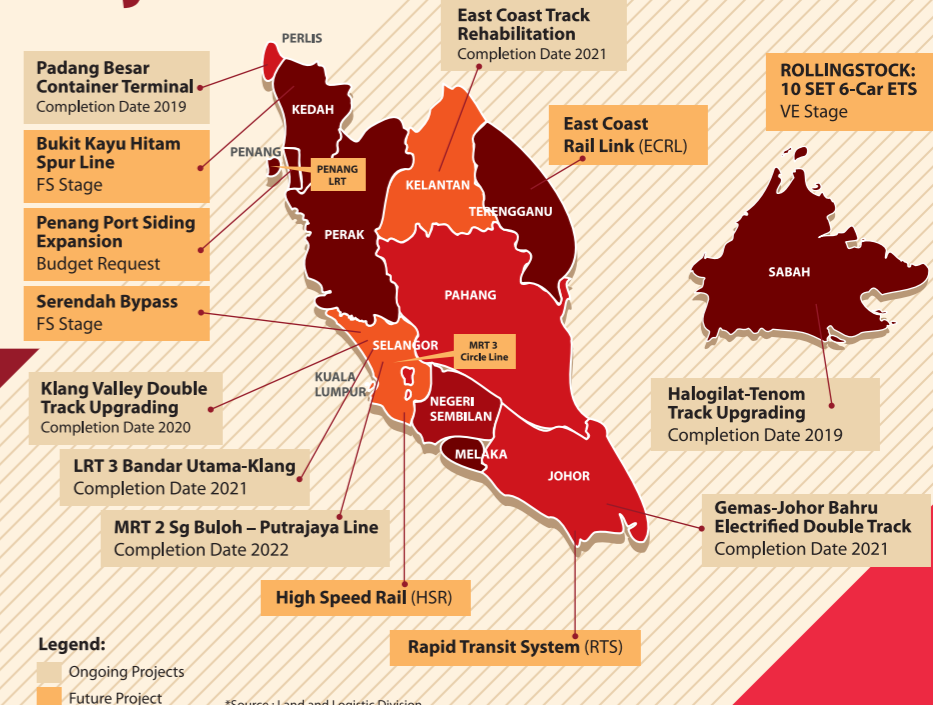


- MRT 2 Putrajaya Line totaling 57.7 km (35 miles 68 chains) in length, includes 5.5 km (3.4 mi) annexed from the MRT Kajang Line, making it the longest metro line in Malaysia.



- The 665-km East Coast Rail Link (ECRL) will traverse the East Coast states of Kelantan, Terengganu, and Pahang before linking the Klang Valley on the West Coast of Peninsular Malaysia.
- MRT 3 Circle Line with 50.8 km of rail alignment, a total of 33 stations, which will consist of 26 elevated and 7 underground stations will be built.
- Penang LRT will connect Komtar and Bayan Lepas with 23 stations along the 26.8 km line. The rail line also includes a Georgetown-Butterworth LRT Line that will connect the island with the mainland.
- The Malaysia High-Speed Rail (MyHSR) is a non-stop or express service that will connect Bandar Malaysia, Kuala Lumpur to Jurong East, Singapore and vice versa, and will not take more than 90 minutes.

Key Railway Projects



THE COUNCIL MEMBERS AND CORPORATE MANAGEMENT

The Committee is governed by a Board of Trustees which consists of key rail players in the rail industry. The committee brings together years of experience, industry knowledge, and strong linkage with the relevant government ministries and agencies.

COMMITTEE COUNCIL MEMBERS

