AUSSENWIRTSCHAFT AUSTRIA

AUSSEN WIRTSCHAFT BRANCHENREPORT MALAYSIA

RAILWAY INDUSTRY IN MALAYSIA

MARKTEINTRITT UND STAATLICHE FÖRDERUNGEN
TRENDS UND CHANCEN FÜR ÖSTERREICHISCHE FIRMEN
VERANSTALTUNGEN UND MESSEN
KONTAKTE UND LINKS

AUSSENWIRTSCHAFTSCENTER KUALA LUMPUR
MAI 2026

go international
Bundesministerium Wirtschaft, Energie und Tourismus
WKO AUSSENWIRTSCHAFT AUSTRIA

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Dieser Branchenreport wurde im Rahmen der Internationalisierungsoffensive **go-international**, einer gemeinsamen Initiative des Bundesministeriums für Wirtschaft, Energie und Tourismus und der Wirtschaftskammer Österreich, erstellt.

Offenlegung nach § 25 Mediengesetz i.d.g.F.:

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1. EXECUTIVE SUMMARY

Malaysia's rail industry is undergoing a major transformation and is increasingly positioned as a strategic driver of national economic growth, sustainable mobility, logistics efficiency, and ASEAN connectivity. Supported by long-term government development plans and large-scale infrastructure investment, the sector is shifting from a traditional infrastructure focus toward a more technology-driven ecosystem. Key priorities include reducing urban congestion, improving freight logistics, strengthening industrial corridor connectivity, and supporting national decarbonisation goals. Rapid urbanisation, rising public transport demand, and expanding cross-border trade, particularly between Thailand, Malaysia, and Singapore are accelerating investments in metro systems, intercity rail, freight corridors, and smart mobility solutions, reinforcing Malaysia's ambition to become a regional rail and logistics hub. In parallel, broader long-term planning discussions in East Malaysia, particularly Sabah and Sarawak, also continue to explore enhanced rail and integrated transport connectivity to support regional economic development and intercity mobility.

The Malaysian rail ecosystem spans the full value chain, including rolling stock, signalling, electrification, communications, trackwork, automated fare collection, maintenance and overhaul, and systems integration. The industry is rapidly adopting advanced technologies such as AI, IoT, predictive maintenance, digital twins, cloud-based operations, smart signalling, cybersecurity, and automation. There is also growing focus on energy-efficient trains, regenerative braking, and emerging green propulsion technologies such as hydrogen. This transition toward smart rail operations is improving reliability, reducing downtime, and enhancing passenger experience while creating demand for both large infrastructure players and specialised technology providers. Major projects driving this transformation include the East Coast Rail Link, the Johor Bahru–Singapore RTS Link, the LRT3 line, and the planned MRT3 Circle Line, alongside ART deployments in Sarawak and potential future ART systems in Johor Bahru that may complement urban transit expansion and last-mile connectivity strategies. These developments collectively reshape both Peninsular Malaysia's rail backbone and emerging mobility systems in East Malaysia.

For international stakeholders, particularly Austrian companies, Malaysia presents strong opportunities across engineering services, signalling systems, digital rail technologies, predictive maintenance, and sustainable mobility solutions. Austrian expertise in railway engineering, automation, tunnel systems, and lifecycle asset management aligns well with Malaysia's push toward modernisation, localisation, and operational efficiency. However, market entry requires navigating challenges such as localisation requirements, technology transfer expectations, strong competition from established global players, regulatory complexity, and fragmented rail standards. Success in this market will depend on forming long-term local partnerships, contributing to skills development, and supporting ecosystem building.

Overall, Malaysia's rail sector offers significant long-term growth potential, particularly for firms able to deliver integrated, high-value, and technology-intensive rail solutions aligned with the country's sustainability, regional connectivity, and next-generation mobility ambitions, including ART expansion and potential future deployments in Johor Bahru and broader Borneo transport development pathways.

2. OVERVIEW OF THE MALAYSIAN RAILWAY INDUSTRY

Malaysia's railway network is a multi-layered system consisting of intercity rail, urban rapid transit, and emerging regional mobility solutions. The backbone of the national rail system is operated by Keretapi Tanah Melayu Berhad (KTMB), which provides passenger and freight services across Peninsular Malaysia, linking major cities, industrial zones, and ports such as Port Klang. In the Klang Valley, urban rail services are operated mainly by Prasarana Malaysia Berhad through its Rapid Rail Sdn Bhd division, which manages the Light Rail Transit (LRT), Mass Rapid Transit (MRT), and KL Monorail systems. The MRT infrastructure itself is developed by Mass Rapid Transit Corporation Sdn Bhd (MRT Corp), while operations are handled by Rapid Rail under a separated asset–operations model. The airport rail link is operated by Express Rail Link Sdn Bhd (ERL), providing high-speed services via the KLIA Ekspres and KLIA Transit, connecting Kuala Lumpur City Air Terminal with Kuala Lumpur International Airport (KLIA).

Beyond the Klang Valley, Malaysia is expanding urban rail and strategic interregional corridors. A key national megaproject is the East Coast Rail Link (ECRL), a 665-kilometre electrified rail line being developed to connect the east coast states of Peninsular Malaysia with the Klang Valley and Port Klang. Once completed, it will serve as a major passenger and freight corridor, significantly improving east–west connectivity, supporting logistics efficiency, and reducing reliance on road transport.

In Penang, the proposed Penang Light Rail Transit (Penang LRT), part of the broader Penang Transport Master Plan aims to establish the state's first urban rail system, improving connectivity between George Town, Bayan Lepas, and surrounding corridors, with MRT Corp playing a key implementation role. In Johor, the Johor Bahru–Singapore Rapid Transit System (RTS) Link is being developed as a cross-border rail shuttle jointly involving MRT Corp and Singapore's SMRT Corporation, designed to ease congestion at one of the world's busiest land crossings. In addition, the Elevated Autonomous Rapid Transit (E-ART) project in Johor Bahru has also been approved, a major urban mobility initiative intended to complement the RTS Link and reduce congestion across key city corridors, with implementation expected through a public–private partnership model

In East Malaysia, comprising Sabah and Sarawak on the island of Borneo, rail infrastructure remains limited, but new mobility approaches are emerging. Sarawak is leading innovation through Sarawak Metro Sdn Bhd, which is implementing the Autonomous Rapid Transit (ART) system in Kuching, offering a flexible, trackless electric transit solution designed for scalable urban mobility. The latest development is the approved Elevated Autonomous Rapid Transit (E-ART) project in Johor Bahru, a major urban mobility initiative intended to complement the RTS Link and reduce congestion across key city corridors, with implementation expected through a public–private partnership model. Broader Borneo development discussions continue to focus on long-term transport integration, logistics connectivity, and future urban mobility systems to support regional economic growth. Overall, Malaysia's rail ecosystem is evolving into a more integrated national network combining conventional rail, major freight corridors such as the ECRL, expanding urban metro systems, and innovative transit solutions like ART and E-ART across both Peninsular Malaysia and Borneo.

In terms of Malaysia's rail value chain, it is structured across four tiers, encompassing final system integrator, major systems and subsystems integrators, components and parts manufacturers, and maintenance, repair, and overhaul (MRO) services (see fig 1). Throughout the value chain, the government is actively pushing to deepen local content and technology transfer requirements within procurement. Rail export revenues grew sharply from RM 320.9 million in 2023 to RM 471.6 million in 2024, a 47% increase, reflecting a maturing domestic industry also building export capacity. The European Union ranked as the fifth-largest export destination for Malaysian rail products in 2023, underscoring the growing bilateral relevance between Malaysia and European suppliers including Austria.

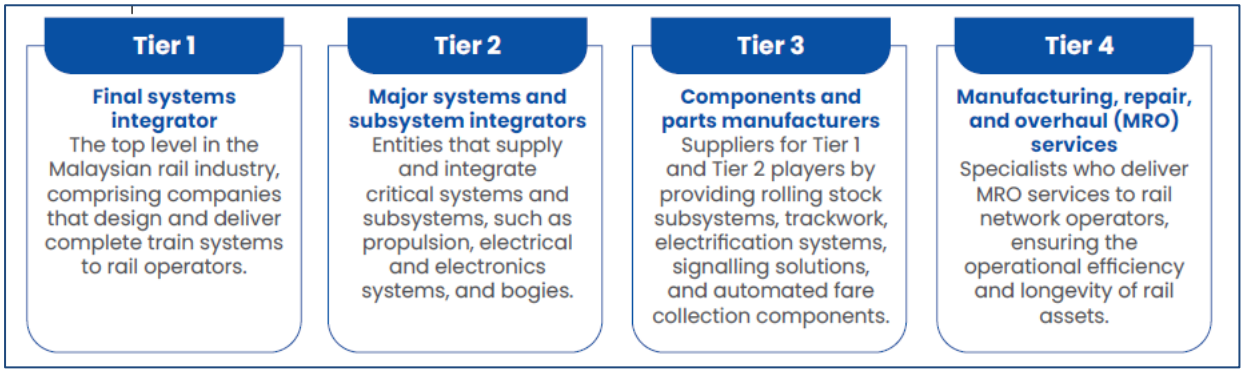

Fig 1: Source from MATRADE

According to the latest rail industry report, six key priority areas identified through stakeholder workshops: predictive maintenance, testing facilities, incident management, operations obsolescence management, project localisation, and industry ecosystem development. The report explicitly calls for technology transfer, joint ventures, and international collaboration as necessary mechanisms to accelerate Malaysia's path to rail sovereignty, a direct invitation to specialist international partners.

Austrian rail technology companies represent a portfolio that can contribute meaningfully across all six of Malaysia's identified priority areas, making this one of the most strategically coherent bilateral rail partnership opportunities available in Southeast Asia today. The clearest near-term entry point is as a specialist sub-system or component supplier within awarded turnkey contracts, the MRT Kajang Line's open tender for Wheel Monitoring Systems (December 2025) and ongoing sub-tenders under the Penang LRT Mutiara Line systems contract being the most immediate examples. The MRT3 Circle Line re-tender, expected by end-2026, represents the single largest medium-term opportunity, while the KL–Singapore High Speed Rail and Trans-Borneo Railway provide the longer-term horizon for more substantial engagement.

3. ONGOING & PIPELINE RAIL PROJECTS IN MALAYSIA

3.1. Penang LRT Mutiara Line

The Penang Mutiara Line Light Rail Transit (LRT) is a major public infrastructure project aimed at improving urban mobility and strengthening transport connectivity within Penang Island and between the island and mainland Seberang Perai. The project is designed to address long-standing traffic congestion issues in the state by providing a high-capacity, rail-based public transport system. It forms part of Malaysia's broader strategy to enhance sustainable transport networks in key urban regions.

The LRT line spans approximately 29 to 30 km and includes around 20 stations, connecting key economic and residential corridors such as George Town (Komtar), Bayan Lepas, Penang International Airport, and Butterworth (Penang Sentral). A defining feature of the project is the cross-sea rail link of about 6 km, which directly connects the island and mainland, significantly reducing travel time and improving regional accessibility (see fig 2).

Station No.	Station Name
S01	Silicon Island (Terminus)
S02	Permatang Damar Laut
S03	Penang International Airport
S04	Sungai Tiram
S05	FIZ (South)
S06	FIZ
S07	Jalan Tengah
S08	SPICE
S09	Bukit Jambul
S10	Sungai Nibong
S11	Sungai Dua
S12	Batu Uban
S13	Jalan Universiti (USM)
S14	Gelugor
S15	The Light
S16	East Jelutong
S17	Sungai Pinang
S18	Solok Sungai Pinang
S19	Jalan Gurdwara
S20	KOMTAR
S21	Macallum
S22	Penang Sentral (Terminus)

Fig 2: Source from Penang Property Talk

The total project cost is estimated at approximately RM16.8 billion, making it one of the largest rail infrastructure investments in northern Malaysia. The funding structure is managed at the federal level, with ownership and asset control vested under Mass Rapid Transit Corporation Sdn Bhd (MRT Corp), an entity under Minister of Finance Incorporated. This centralised structure places full long-term ownership of the asset under the federal government upon completion.

In terms of implementation, the project is divided into multiple packages. Package 1, covering civil engineering works such as viaducts, stations, and depot construction, was awarded in January 2025 to SRS Consortium Sdn Bhd, a Gamuda-led joint venture. Construction works commenced following the Notice to Proceed in mid-2025, marking the beginning of a six-year construction phase. The project is currently targeted for full completion and operation by December 2031.

In May 2026, the Ministry of Transport (MOT) clarified its position regarding the procurement approach for **Package 1**, defending the use of a single-sourcing Request for Proposal (RFP). The ministry stated that the decision was based on legal, technical, and contractual transition considerations, while emphasising that independent cost verification and value management processes were conducted prior to award. The government also confirmed that future packages, particularly systems integration works, will proceed through competitive tendering processes.

As of April–May 2026, **Package 2** remains in the procurement and evaluation stage, with MRT Corp responsible for tender preparation and technical assessment. Importantly, the Penang state government has confirmed that it is not directly involved in contractor selection, as procurement authority lies entirely with MRT Corp, while the state participates only in a stakeholder coordination capacity through review mechanisms.

Recent reporting further indicates that intense competition and industry lobbying among major rail systems players is contributing to delays in finalising the systems contract, as stakeholders seek influence over one of the largest rail systems packages in the country.

3.2. MRT 3 Circle Line

The MRT 3 Circle Line (Klang Valley MRT3) is a major planned urban rail project in Malaysia designed to complete a "circle" orbital rail network around Kuala Lumpur and the wider Klang Valley. Developed by MRT Corp Malaysia, the project aims to connect existing MRT, LRT, KTM, and Monorail lines through an approximately 51–52 km alignment with 31 stations (see fig 3). Once completed, it will significantly improve cross-network connectivity and reduce dependency on radial travel through the city centre.

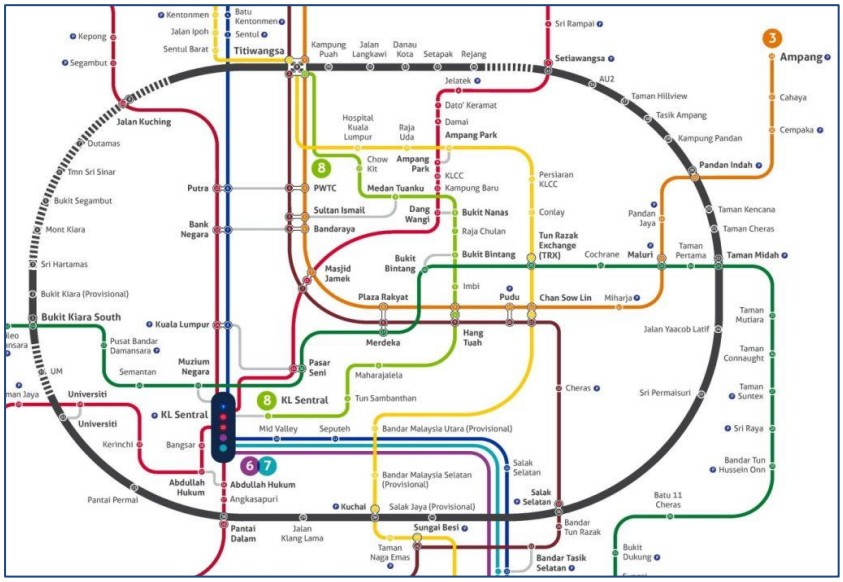

Fig 3: Source from Soya Cincau

As of May 2026, MRT3 has already received its final railway scheme approval (in 2025) and is currently in the land acquisition phase, which is one of the main active stages of development. Land acquisition is expected to continue throughout 2026, with the goal of completing it by the end of the year. At the same time, government planning indicates that tender exercises for major construction packages may reopen around mid-2026, after earlier procurement exercises were paused and restructured to align with updated project scope and funding strategies. This marks an important transition phase toward the eventual construction rollout.

In terms of cost, MRT3 is widely estimated at around RM50 billion, making it one of the largest public transport infrastructure investments in Malaysia's history. The final figure may still be adjusted

depending on contract awards, engineering refinement, and station design finalisation during the tender and procurement stages.

The expected timeline remains long-term: construction is likely to begin after the main tender awards (around 2027), followed by several years of phased construction. Current projections suggest partial operations could begin around 2028–2029 in optimistic scenarios, with full completion and system-wide operations expected around 2030–2032, depending on construction progress and external factors.

Overall, MRT3 is positioned as the final orbital link in the Klang Valley rail network, and by 2026 it has clearly moved from planning into early implementation stages, with land acquisition underway and a potential mid-2026 tender reopening acting as the key next milestone before construction begins.

3.3. E-ART in Johor Bahru

The Johor Bahru Elevated Autonomous Rapid Transit (E-ART) is a planned large-scale public transport project aimed at addressing chronic traffic congestion in Johor Bahru and improving urban mobility across the Iskandar Malaysia region. Approved by the Malaysian Cabinet in May 2026 with an estimated cost of approximately RM10 billion, the project represents one of the most significant public transport investments in southern Malaysia.

It is also designed to complement the upcoming Johor Bahru–Singapore Rapid Transit System (RTS) Link by functioning as a feeder and distribution network, improving last-mile connectivity and easing passenger movement between major urban corridors and cross-border transit points.

The E-ART system is proposed as an elevated, autonomous rubber-tyred transit network operating across key corridors including Skudai, Tebrau, and Iskandar Puteri. It is expected to include around 32 stations, connecting residential zones, commercial centres, and strategic growth areas within Johor Bahru (see fig 4).

Bukit Chagar, which serves as the RTS Link station, is planned as a key interchange hub for the system. The E-ART is designed as a medium-to-high capacity transit system capable of carrying several thousand passengers per hour per direction, offering a more cost-efficient alternative to conventional rail systems such as LRT or MRT while still delivering high-frequency urban mobility.

Fig 4: Source from iProperty

In terms of project development, the E-ART has progressed through feasibility studies, planning assessments, and procurement preparation stages under the Public Private Partnership (PPP) framework. The project is being managed under the Public Private Partnership Unit (UKAS), with procurement conducted through a Request for Proposal (RFP) process to identify a suitable private sector consortium for design, construction, and operation.

Recent reporting from The Edge Malaysia indicates that the project has been awarded to a consortium led by MMC Corporation Bhd together with DOM Industries Sdn Bhd, supported by international transit technology partners such as BTS Group Holdings. This consortium model combines local infrastructure delivery capability with international expertise in automated transit systems, particularly from operators experienced in ART-based technologies.

The governance structure of the project follows a PPP model in which the private consortium is responsible for financing, constructing, and operating the system under a long-term concession arrangement, while the federal government provides oversight through UKAS and relevant transport agencies. This structure is intended to reduce upfront public funding requirements while ensuring efficient delivery and operational sustainability. The project also aligns with broader federal and state-level transport planning objectives, particularly in preparing Johor Bahru for increased mobility demand following the completion of the RTS Link between Johor and Singapore.

Overall, the Johor Bahru E-ART project represents a strategic shift towards scalable, cost-efficient urban transit solutions in rapidly growing cities. It is expected to significantly improve connectivity within the Iskandar Malaysia region, reduce dependence on private vehicles, and support long-term economic development by integrating key residential, commercial, and cross-border transport nodes into a unified public transport network.

3.4. East Coast Rail Link (ECRL)

The East Coast Rail Link (ECRL) is a major railway infrastructure project in Malaysia designed to connect the country's east coast states: Kelantan, Terengganu, and Pahang, with the Klang Valley and Port Klang on the west coast. Spanning approximately 665 kilometres, the project is intended to enhance both passenger mobility and freight logistics, strengthening economic integration across Peninsular Malaysia and reducing reliance on road transport for long-distance cargo movement (see fig 5).

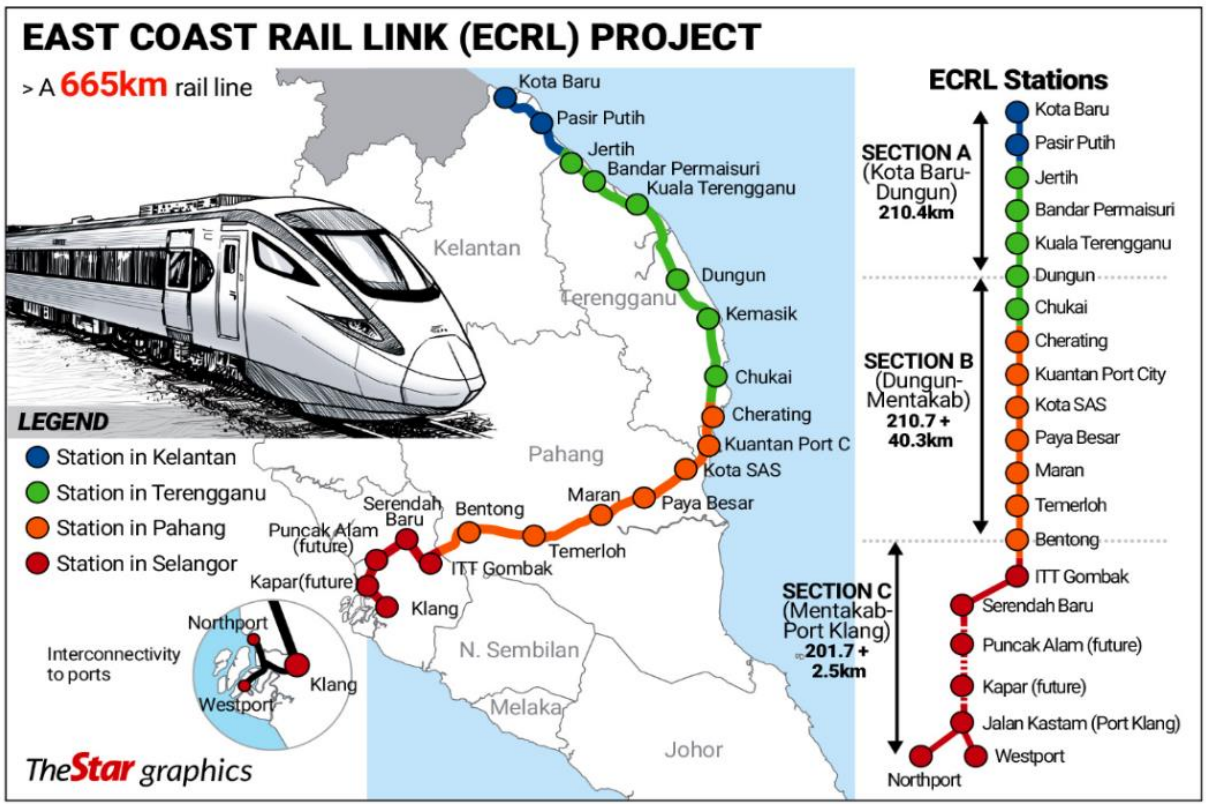

Fig 5: Source from the Star Graphics

The project is estimated to cost around RM50-60 billion, depending on financing arrangements and scope adjustments made over time. It is implemented under a government-to-government cooperation framework between Malaysia and China, reflecting its strategic importance in regional infrastructure development and trade connectivity.

Ownership of the ECRL lies with Malaysia Rail Link Sdn Bhd (MRL), a company under Malaysia's Ministry of Finance. MRL acts as the project owner and asset holder on behalf of the Malaysian government. The main engineering, procurement, and construction works are carried out by China Communications Construction Company (CCCC) through its subsidiary, China Communications Construction (ECRL) Sdn Bhd, which is responsible for the full EPC scope including civil works, rail systems, electrification, and construction delivery.

The construction progress has reached a highly advanced stage. As of February 2026, the ECRL is reported to be about 92.62% complete, placing it in its final construction, systems integration, and testing phase. According to recent updates, major civil works are largely completed, with remaining activities focused on rail systems installation, electrification, and commissioning works prior to operations.

The project is generally delivered in phases. The first major operational segment is the Kota Bharu to Gombak stretch, which forms the core east coast to Klang Valley connection. This section is currently targeted for completion first, with trial operations expected before full commercial service begins. The

second phase extends from Gombak to Port Klang, which is crucial for freight connectivity to Malaysia's main maritime gateway. This western extension is expected to be completed slightly later, finalising the full east–west corridor integration. System-wide works such as electrification, signaling, rolling stock testing, and safety certification run in parallel across both phases.

Based on current projections, the Kota Bharu-Gombak section is expected to begin operations around early 2027, while the full ECRL line, including the Port Klang extension, is expected to be fully operational by around 2028. These timelines reflect the transition from construction to commissioning and phased commercial opening as reported in recent project updates.

Recent reporting also highlights that the ECRL is evolving into a key national logistics corridor, with strong emphasis on freight efficiency and industrial development along the route. The project is expected to significantly reduce transport time between the east coast and Klang Valley, while also improving cargo flow to Port Klang. This is expected to strengthen Malaysia's position as a regional logistics hub and support new industrial clusters along the rail alignment.

Looking ahead, future opportunities linked to the ECRL are expected to emerge even after completion. These may include tenders for operations and maintenance support, rolling stock servicing, and rail systems upgrades. In addition, there is strong potential for public-private partnerships involving logistics hubs, industrial parks, and transit-oriented developments along major stations such as Kuantan, Dungun, and Gombak. Over the longer term, further enhancements such as capacity upgrades, advanced signaling systems, and freight optimization technologies could also be tendered depending on demand growth and national transport policy direction.

3.5. Johor Bahru-Singapore RTS Link

The Johor Bahru-Singapore Rapid Transit System (RTS) Link is a high-capacity cross-border rail project designed to improve connectivity between Johor Bahru, Malaysia, and Woodlands, Singapore, by significantly reducing congestion on the Johor–Singapore Causeway. The system spans approximately 4 kilometres across the Strait of Johor and is directly integrated with both countries' metro and rail networks, linking Bukit Chagar station in Johor Bahru with Woodlands North MRT station in Singapore (See fig 6). The project is jointly developed by Malaysia and Singapore, with ownership of infrastructure on each side held by their respective governments, while operations are managed through a dedicated joint operating company, RTS Operations Pte Ltd.

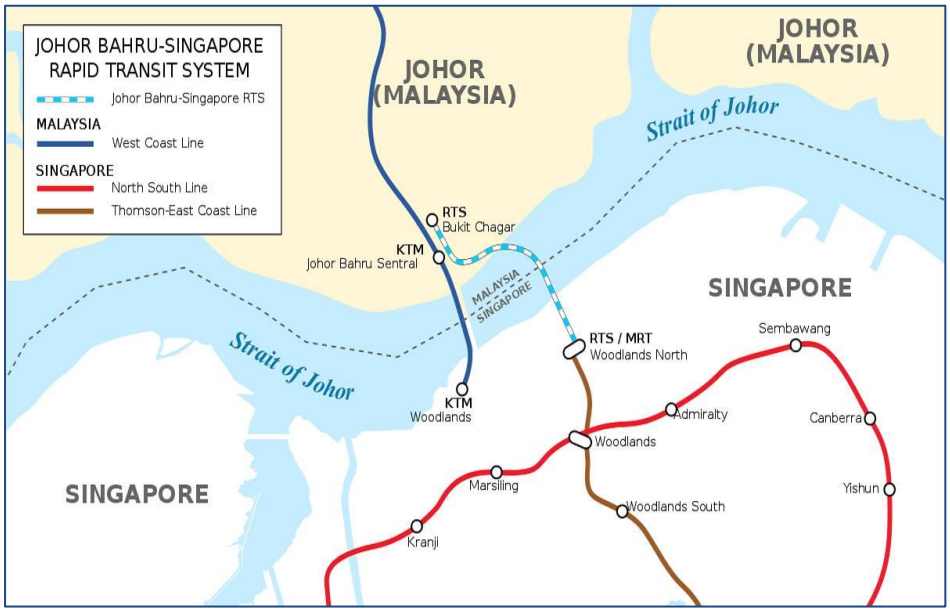

Fig 6: Source from RTS

The RTS Link has a total project cost of approximately RM10 billion (Malaysia's portion included in the bilateral arrangement), with Singapore separately funding its own station and infrastructure works. The project is structured as a bilateral agreement, with both governments sharing responsibilities for construction, coordination, and regulatory compliance. Immigration, Customs, and Quarantine (CIQ) facilities are co-located at both terminal stations, allowing passengers to complete border clearance before boarding, which eliminates the need for checks upon arrival and enables seamless cross-border travel.

As of May 2026, the project has reached its final construction and systems testing phase, with overall completion reported at around 90% and major structural works largely completed. Trial operations and system testing are being progressively carried out ahead of opening. The project is now in its final integration stage, focusing on signalling systems, train testing, and operational readiness for both Malaysian and Singaporean authorities. According to current progress updates, the RTS Link is targeted to commence passenger operations in January 2027, with some reports indicating final readiness activities beginning as early as late 2026.

In terms of development and implementation, construction officially began in 2020 after bilateral agreement between Malaysia and Singapore to resume the project following earlier delays. The system is being delivered under strict joint oversight, with both countries coordinating technical specifications, safety standards, and operational frameworks.
The Johor Bahru terminal at Bukit Chagar is also being integrated with future urban transport systems such as the E-ART to strengthen last-mile connectivity within Johor Bahru.

Fares for the RTS Link have not been officially finalised but are expected to be commercially determined by RTS Operations. Based on recent government guidance, fares are projected to be in the range of approximately RM15.50 to RM21.70 (around S$5 to S$7) per trip, with both governments confirming that no cross-border subsidies will be provided. This pricing is intended to remain competitive compared to private vehicle travel and existing cross-border transport options.

In general, the Johor Bahru-Singapore RTS Link represents a major milestone in regional cross-border infrastructure, with full operations expected by 2027. It is designed to significantly improve passenger capacity across the Causeway, support economic integration between Johor and Singapore, and reshape daily commuting patterns in one of the busiest international land crossings in the world.

3.6. LRT 3 Shah Alam Line

The LRT3 Shah Alam Line (also known as the Shah Alam LRT Line) is a high-capacity urban rail project in the Klang Valley designed to improve public transport connectivity between Bandar Utama in Petaling Jaya and Johan Setia in Klang. The 37.8-kilometre fully automated light rail system includes 25 stations and is intended to serve major residential, commercial, and industrial corridors along the western Klang Valley. It forms an important part of Malaysia's integrated urban rail network by linking with existing MRT and LRT lines, particularly at Bandar Utama (MRT Kajang Line) and Glenmarie (Kelana Jaya Line). (see fig 7)

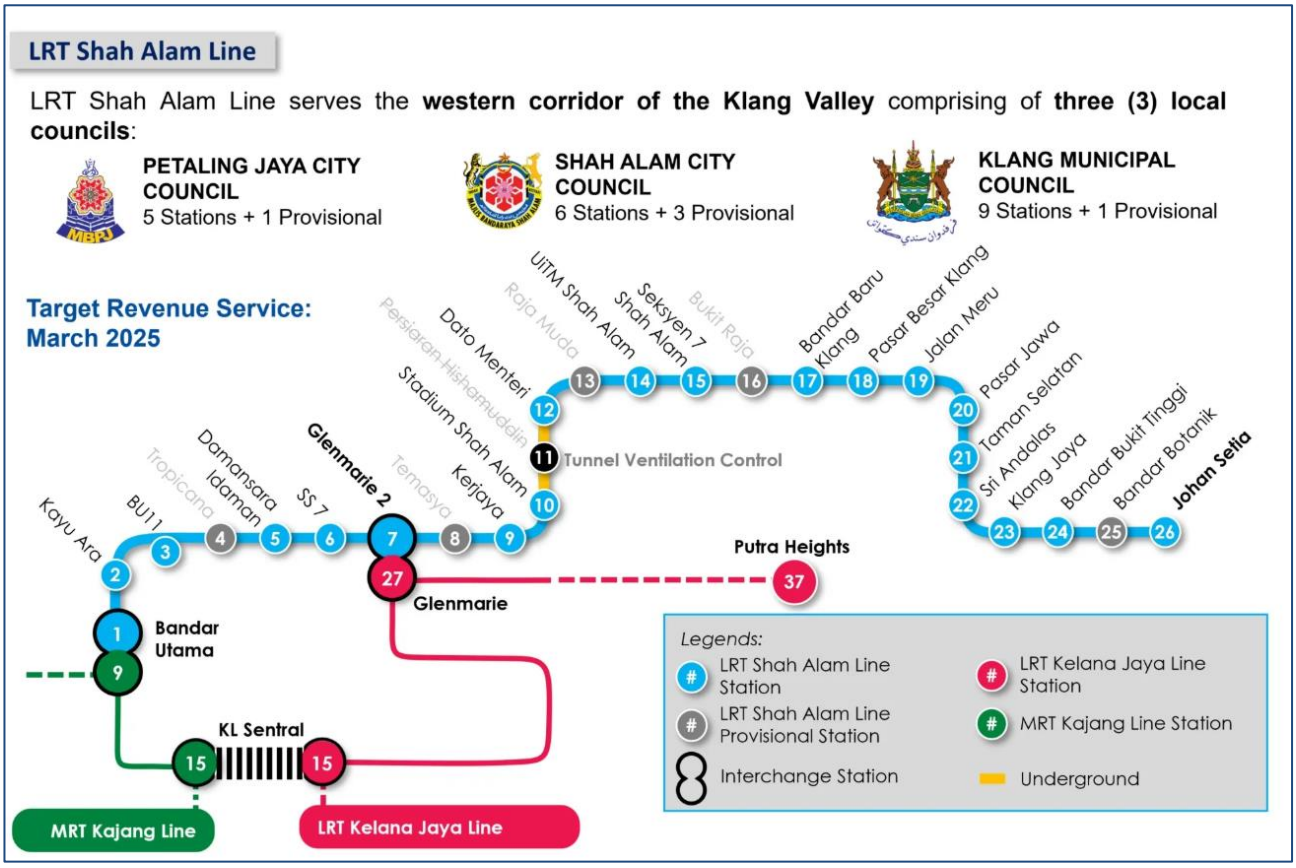

Fig 7: Source from LRT

The project is owned by the Malaysian government through Prasarana Malaysia Berhad, which acts as the asset owner under the Ministry of Finance Incorporated framework. Prasarana is responsible for overall ownership and long-term asset management of the LRT3 infrastructure, while operations will be handled by its subsidiary under the Rapid KL network once the line becomes operational. The main civil works contractor is MRCB–George Kent Sdn Bhd (now Setia Utama LRT3 Sdn Bhd), which is responsible for design and construction under the project delivery partner model.

The total project cost of LRT3 has undergone several revisions due to design rationalisation and reinstatement of previously shelved stations. The latest publicly reported estimate places the cost at approximately RM21.9 billion, following the reinstatement of additional stations and scope adjustments approved under Budget 2024. Initially, the project was reduced in scope in 2018 to lower costs, but later expansions restored parts of the original alignment to improve coverage and ridership potential.

In terms of timeline, construction began in 2016, and the project has experienced multiple delays due to cost restructuring and extensive system testing requirements. As of 2026, the line is in its final phase of testing and commissioning, including fault-free run (FFR) trials and signalling system validation. Recent developments highlight continued delay pressures in the final commissioning stage. The main contractor is reported to be facing potential delay penalties, as accumulated construction and system integration delays reached nearly 291 days, driven largely by signalling and train control system issues. This reflects the complexity of final-stage integration works despite most physical infrastructure being completed.

3.7. Kuching Urban Transportation System (KUTS)

The Kuching Urban Transportation System (KUTS) is Sarawak's flagship urban public transport project aimed at modernising mobility in Greater Kuching and reducing dependence on private vehicles. The project is designed as an autonomous hydrogen-powered urban transit network connecting major residential, commercial, and institutional areas across Kuching, Samarahan, and Serian.

The Kuching Urban Transportation System (KUTS) is particularly significant because it uses a hydrogen-powered Autonomous Rapid Transit (ART) system, which is widely described as the world's first hydrogen-powered smart tram or hydrogen-powered ART system. The ART technology, developed by CRRC Zhuzhou from China, operates using autonomous rubber-tyred vehicles guided by virtual track technology instead of conventional steel rail tracks. The vehicles are powered by hydrogen fuel cells, producing zero direct emissions while offering lower infrastructure costs and greater flexibility compared to traditional rail systems.

The project is owned and overseen by the Sarawak state government through the Sarawak Metro Sdn Bhd, a wholly owned subsidiary of the Sarawak Economic Development Corporation (SEDC). Sarawak Metro acts as the project developer and asset owner responsible for planning, implementation, integration, and future operations management. The system is delivered under a state-led model rather than a federal transport framework, reflecting Sarawak's autonomous approach toward infrastructure development and sustainable mobility planning.

The total project cost is estimated at approximately RM6 billion, covering infrastructure construction, stations, depot facilities, hydrogen refuelling systems, and procurement of autonomous ART vehicles. The KUTS network is divided into three main corridors known as the Blue Line, Red Line, and Green Line, with a planned network length exceeding 70 kilometres. (see fig 8)

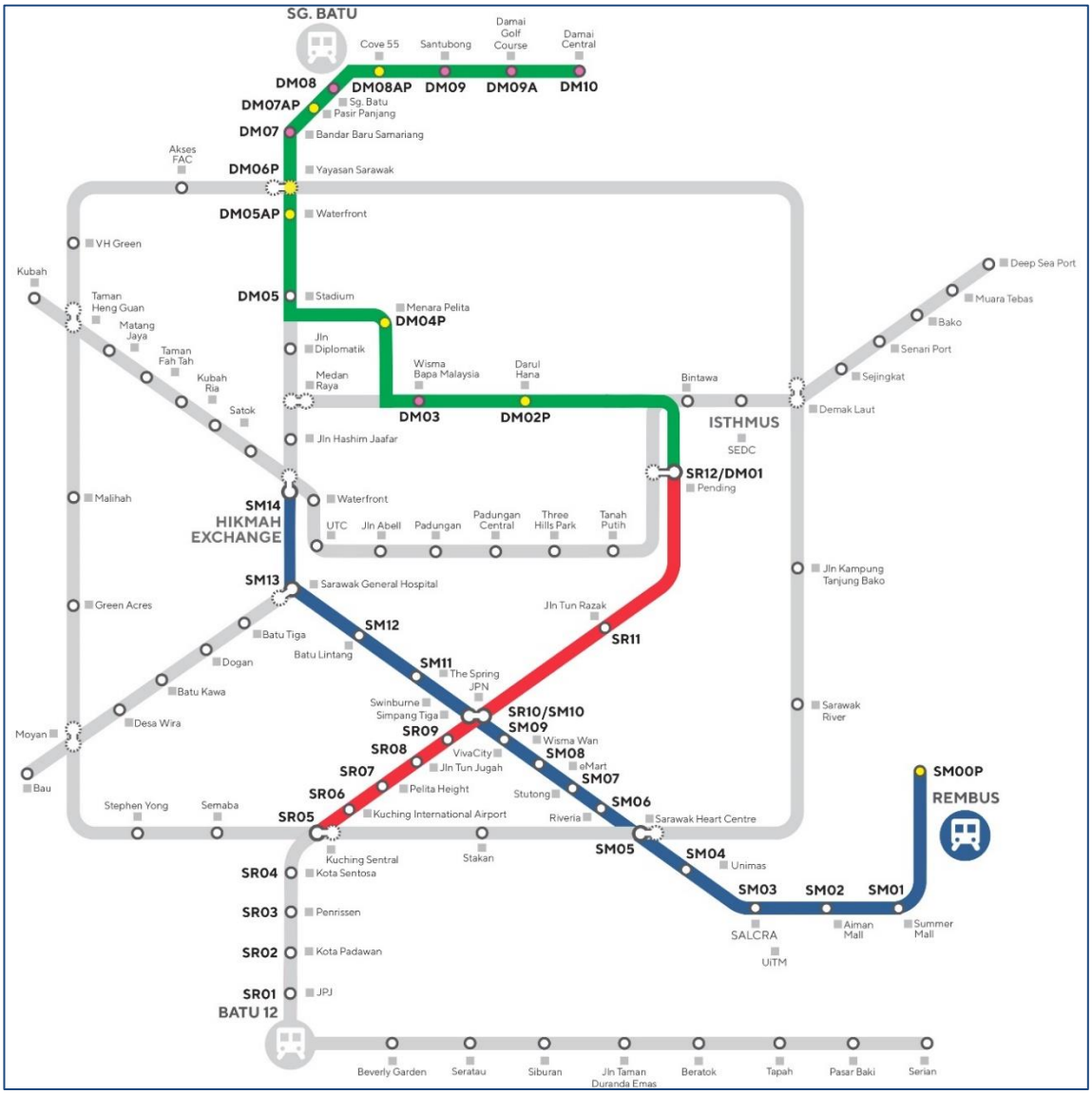

Fig 8: Source from KUTS

Development of the KUTS project began following the establishment of Sarawak Metro in 2018 and subsequent approval of the Greater Kuching Coordinated Development Agency (GKCDA) public transport master plan. Civil works officially commenced in 2022, including station construction, depot works, elevated guideways, and hydrogen infrastructure development. The project also includes integrated park-and-ride facilities and transit-oriented development initiatives to support long-term urban expansion in Greater Kuching.

As of May 2026, the project has entered an advanced implementation phase with major infrastructure works substantially progressing across several corridors. According to recent updates, the system is expected to begin a pilot operational run in the fourth quarter of 2026, marking a key milestone toward full commercial operations. The pilot run will focus on operational testing, autonomous vehicle performance, signalling integration, and passenger system validation before full commissioning.

Recent developments in 2026 also highlight Sarawak's continued emphasis on hydrogen mobility and smart city integration as part of the state's broader green energy strategy. Hydrogen-powered ART vehicles for the KUTS system have already undergone preliminary testing and demonstration exercises, while supporting hydrogen production and refuelling infrastructure is being expanded to ensure operational readiness. The state government has consistently reaffirmed its commitment to completing the project in phases, with the first operational segment targeted for introduction following successful pilot testing.

3.8. Trans-Borneo Railway

The Trans-Borneo Railway is a proposed regional railway network intended to connect Sabah, Sarawak, Brunei, and Kalimantan across the island of Borneo. The project is envisioned as a long-term infrastructure initiative aimed at improving regional connectivity, logistics efficiency, and economic integration in East Malaysia and neighbouring regions, including potential linkage to Indonesia's new capital city, Nusantara.

As of 2026, the project remains in the feasibility and planning stage, with no construction works commenced. The Malaysian Ministry of Transport, together with the Sabah and Sarawak governments, initiated a formal feasibility study in 2025 to assess the project's technical, financial, environmental, and operational viability. Preliminary studies suggest that the railway network could exceed 1,600 kilometres in length, although final alignments and implementation plans have not yet been confirmed.

Current developments in 2026 indicate that interim findings from the feasibility study have been submitted to the Ministry of Transport, while technical discussions involving federal and state agencies are ongoing. The final feasibility report is expected by mid-2026, after which the government will decide whether to proceed to the next stage of development. The federal government has described the railway as a long-term strategic vision due to its scale, complexity, and cross-border coordination requirements.

Although no final project cost has been confirmed, early industry estimates suggest that a full Trans-Borneo network could potentially require investments worth hundreds of billions of ringgit if implemented in phases across multiple countries. Overall, the project currently remains at the strategic planning stage and is viewed as a future regional connectivity initiative for Borneo.

4. CHALLENGES FOR MARKET ENTRY

Despite the strong alignment between Austrian capabilities and Malaysian needs, several structural challenges require careful navigation:

- **Localisation Requirements & Joint Venture Mandates:** Current procurement rules require foreign contractors to participate through a joint venture or consortium with Malaysian partners (up to 49% foreign equity stake on key tenders such as the Penang LRT). This is both a constraint and an opportunity - Austrian firms must identify and cultivate reliable local partners early in the process.

- **Dominance of Asian OEMs in Turnkey Contracts:** Major turnkey rail contracts in Malaysia have historically been awarded to large Asian system integrators (CRRC, Hitachi, Alstom APAC, Siemens Mobility). Austrian companies are best positioned as specialist subsystem suppliers, technology licensors, or component providers within these larger consortia, rather than as lead contractors.

- **Local Content Bias in Evaluation:** Evaluation criteria increasingly reward local content percentage by value. Austrian firms should be prepared to demonstrate technology transfer, training commitments, and long-term maintenance partnerships to score well on non-price criteria.

- **Procurement Complexity and Timeline Slippage:** Malaysian rail projects have a track record of schedule extensions and tender re-issuances (MRT3 is illustrative, originally tendered in 2022, fully re-tendered from mid-2026). Companies must plan for long sales cycles and maintain sustained in-market presence.

- **Limited Awareness of Austrian Brands:** Awareness of Austrian rail companies among Malaysian procurement teams and operators is limited. Investment in relationship-building through annual events such as Rail Solutions Asia, bilateral trade missions, and MOUs with local universities and operators is essential groundwork before tenders are floated.

- **Standards and Certification Gaps:** The latest rail industry report highlights the absence of domestic rail testing facilities as a major bottleneck. Austrian-supplied components will likely need third-country certification (currently often sent to China or Germany), adding cost and lead time. This gap also represents a longer-term business opportunity for Austrian testing and certification expertise.

5. OPPORTUNITIES IN MALAYSIAN MARKET

Malaysia's railway sector is entering its most consequential decade in generations, with over RM80 billion worth of projects either under active construction or in advanced procurement stages as of 2026. For Austrian companies, this represents a rare convergence of timing and fit. Austria has long been recognised as one of Europe's premier exporters of railway technology, spanning track infrastructure, vibration engineering, signalling systems, precision manufacturing, and track maintenance machinery.

Track infrastructure and engineering present one of the most immediate opportunities in Malaysia's expanding rail sector. The country is currently undertaking multiple large-scale projects simultaneously, including the 665 km East Coast Rail Link (ECRL), the Penang LRT Mutiara Line, the LRT Shah Alam Line, and the upcoming MRT3 Circle Line. This creates sustained demand over the next decade for high-quality rails, turnout systems, fastening components, and signalling-related track hardware.

Austria has strong global competitiveness in rail manufacturing and integrated track solutions, particularly in switch and crossing systems. As these networks transition from construction into operations,especially the ECRL from 2027 onward, there will be increasing demand for lifecycle services such as maintenance, component replacement, and system upgrades, creating long-term opportunities beyond initial construction contracts.

Vibration, noise, and urban rail comfort solutions represent another highly relevant niche area. Urban rail corridors such as the Penang LRT Mutiara Line and MRT3 Circle Line pass through dense, sensitive environments including heritage zones in George Town and inner Kuala Lumpur. These conditions require advanced vibration isolation and noise mitigation technologies to protect surrounding structures and improve passenger comfort.

Austrian engineering firms have established expertise in polyurethane-based vibration damping systems that reduce structure-borne noise and track wear, which is particularly important in Malaysia's tropical climate with high humidity and rainfall. Beyond comfort improvements, these systems also contribute to lower lifecycle maintenance costs, making them attractive to long-term asset owners such as MRT Corp and Prasarana.

Signalling, train detection, and safety systems also present a significant opportunity segment. Malaysia's new rail developments, including Penang LRT, MRT3, E-ART Johor Bahru, and the JB–Singapore RTS Link, which require advanced signalling systems capable of operating reliably under tropical conditions such as heavy rainfall, flooding risks, and frequent lightning activity.

Austria has strong capabilities in axle counting, interlocking, and digital signalling technologies that meet stringent international safety standards. In Malaysia, European axle counting systems have already demonstrated high reliability, achieving strong on-time performance despite challenging weather conditions. With major contracts such as the Penang LRT systems package still under procurement, this segment represents a near-term high-value opportunity for Austrian signalling providers.

Track maintenance machinery is another long-term and recurring market opportunity driven by Malaysia's rapidly expanding rail network. Large systems such as the ECRL alone require continuous mechanised maintenance, including tamping, ballast regulation, and track renewal from the start of operations.

Austrian manufacturers are globally recognised in this field and already maintain regional support operations in Southeast Asia, including coverage for Malaysia. In addition to new lines, ageing sections of KTM Komuter and intercity rail also require ongoing renewal, while MRT3 and Penang LRT will further increase demand for maintenance equipment through the 2030s. This creates a sustained equipment supply and servicing market over at least a decade.

Sustainability and green technology provide a further competitive advantage for Austrian firms. Malaysia's National Energy Transition Roadmap (NETR) and increasing ESG requirements in public procurement are pushing rail developers and operators to adopt low-carbon solutions.

Austrian companies are already active in green rail manufacturing, including low-carbon steel initiatives that significantly reduce CO_2 emissions through hydrogen-based production processes. These sustainability credentials align strongly with Malaysian infrastructure priorities, particularly among government-linked entities and financing institutions, making environmental performance an increasingly important differentiator in procurement decisions.

Finally, **independent testing, certification, and technical consultancy** represent a high-value supporting segment within Malaysia's rail ecosystem. With multiple new systems being introduced, including autonomous ART systems in Johor Bahru, MRT3 rolling stock, and Penang LRT trains, there is increasing demand for neutral safety validation, system verification, and performance testing services. This need is reinforced by the complexity and public scrutiny of large infrastructure projects, where independent assessment helps ensure transparency, compliance, and technical reliability.

Austrian certification bodies and engineering consultants are well positioned to serve as trusted third-party evaluators supporting both government agencies and project developers across Malaysia's expanding rail sector.

6. CONCLUSION

The combination of Malaysia's urban growth, sustained government infrastructure investment, and a multi-project pipeline extending through the mid-2030s means that the opportunity for

Austrian rail technology companies in Malaysia is not a one-off procurement event, it is a decade-long market opening. Austria's strengths in precision engineering, vibration technology, signalling safety, maintenance machinery, and green manufacturing map closely onto the technical demands and emerging procurement standards that Malaysia's railway expansion requires.

The companies that engage proactively now, build relationships with MRT Corp, Prasarana, Malaysia Rail Link, and KTM Berhad, and establish a credible local presence will be best positioned to capture both the immediate project supply opportunities and the longer-term operations and maintenance contracts that will define Malaysia's railway industry well into the 2030s.

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