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Chairman Message

Dear Members,

Happy New Year 2025 and welcome to our first newsletter of 2025! This year promises exciting opportunities for the railway industry in Thailand. Together, let's drive innovation and growth in our railway community.



Warm regards,
Prof. Dr. - Ing Nisai Fuengwarodsakul
Chairman,
German Thai Railway Association



JOIN GTRA's MEMBERSHIP

• **Organizations**
(e.g., companies, universities)

• **Individuals**
(e.g., researchers, students)



Submit your application
and await approval* and payment details.

*Note that GTRA reserves the right to accept or reject any applicant without declaring any reason.



2024 ACTIVITIES AND EVENTS RECAP

GTRA Ordinary General Meeting 2024

GTRA held annual ordinary general meeting 2024, reviewing key activities and setting the stage for the year ahead. The meeting covered the approval of the 2023 financial statement, amendments to the bylaws, the election of the new steering committee for 2024-2025 and concluded with a reception at the German Embassy, providing an excellent networking opportunity for members. This OGM reinforced GTRA's continued growth and leadership in the Thai railway sector.



GTRA 9th workshop

"Unconventional Railway Systems in Thailand: Monorail, Rubber-Tyred, and Light Rail Transit" in the series on Railway Technology, Operation, and Management. The workshop featured presentations on key topics, including BTS Infrastructure's Monorail projects in Thailand, Alstom's INNOVIA Monorail 300, Siemens Mobility's APM system at Suvarnabhumi Airport, followed by a discussion on unconventional railcar design, comparing cost, performance, and passenger comfort. The event concluded with a special guided tour of the Pink Line depot, offering participants a closer look at the innovative systems discussed during the workshop.



GTRA Members Networking Event



The 2024 GTRA Members Networking Event brought members together to share ideas, discuss future railway initiatives, and connect with peers. Highlights included a Live Link to InnoTrans 2024—the world's largest rail transport trade fair in Berlin—enabled by Siemens Mobility Thailand, alongside lively networking, meaningful discussions, and refreshments.

Engages with Industry Leaders at Key Rail Events



GTRA made a strong presence at various railways event and exhibition like Asia Pacific Rail and the Rail Research Technology Conference, highlighting the commitment to advancing railway innovation. Through booth displays and insightful discussions, GTRA connected with industry leaders, exchanged expertise, and promoted collaboration for the future of railways.



UPCOMING EVENT: 10TH GTRA WORKSHOP

Challenges in Railway Infrastructure in the Series of Railway Infrastructure Development, Planning, and Management. Hosted by the Faculty of Engineering, Chulalongkorn University

Date: Thursday, January 31, 2025

Time: 9:00 AM – 4:30 PM

Location: True Lab @ Chula Engineering,
Chulalongkorn University and MRT Purple Line
Construction Site

Agenda & Key Highlights:

- Insights from leading experts on infrastructure challenges.
- Exclusive site visit to the MRT Purple Line construction project.

Don't miss this opportunity to gain valuable knowledge and network with industry professionals.



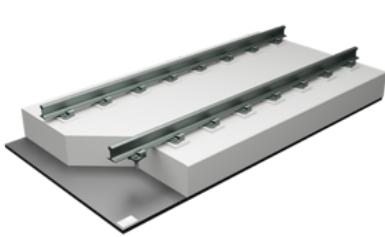
Deadline: January 27, 2025

MEET OUR MEMBER: GERB (THAILAND) CO.,LTD



GERB offers noise and vibration mitigation the floating slab track (FST) solutions for ballasted tracks and rigid slab tracks in tunnels, at grade sections and elevated tracks. GERB names longer lifetime for ballast and track components, lower life cycle maintenance costs and gains in transport volume and riding comfort as innovative benefits of their solutions. GERB's vibration control product portfolio includes steel spring elements, VISCO®-dampers, tuned mass dampers and NOVODAMP® closed-cell polyurethane pads.

MEET OUR MEMBER: GERB (THAILAND) CO.,LTD (CONT.)



Founded in 1908 and headquartered in Berlin, Germany, GERB is a global leader in vibration control solutions, with subsidiaries and production facilities worldwide. Employing 620 staff globally, including 240 in Germany, GERB prioritizes innovation, quality assurance, and ongoing employee development to deliver high-quality engineering solutions.



In 2018, GERB established GERB (Thailand) Co., Ltd. to address the growing opportunities in Thailand and the SEA region. GERB focuses on providing noise and vibration mitigation for industries such as Manufacturing, Construction, and Transportation. Their solutions, tailored to meet local and global market demands, ensure the effective isolation of noise and vibrations, especially in densely populated areas. With a century-long relationship with Thailand, GERB remains committed to advancing the region's railway industry and supporting its growth through collaboration, technical expertise, and the GTRA community.

Reference Project in Thailand


GERB has contributed to the Bangkok Red Line Mass Transit system by providing a track isolation system to the State Railway of Thailand at Bang Sue Grand station. A floating slab track (FST) system has been designed and delivered to minimize vibrations caused by the trains running past sensitive buildings and transition zones.

The technology was adopted to reduce disturbing noise & vibration as well as structure-borne noises. The high-quality of polyurethanes raises the effective of insertion loss to a frequency range and reduces the transmission of train-induced vibration to the nearby buildings or, even more efficiently, isolate vibrations at their source. This includes zones with different substructures e.g. transitions from ballasted to slab tracks with the inherent sudden change of elasticity, which is challenging for maintenance and reconstruction work (the cost of which are many times higher than for normal tracks). According to GERB, the ideal solution is to compensate for the sudden change of the stiffness and track elasticity and to provide an aligned and smooth transition in gradual steps.

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FEATURE ARTICLE: DEVELOP AND INCENTIVIZE FREIGHT/CARGO TRAIN OPERATIONS AND MANAGEMENT IN THAILAND

Author: Mr. Juergen Supik, CEO - Dorsch Consult Asia Co. Ltd.

Thailand's Current Cargo Railway Scenario

At present, a mere 2% of domestic freight in Thailand is transported via rail. This is shockingly low, considering that 79.5% of domestic freight/cargo moves on roads and another 18.5% is shipped through water. The scenario for international freight is even bleaker with only 0.1% being moved by rail, 86% by water, 13% via roads, and 0.3% through air transport (see Figure and Table 1 below).

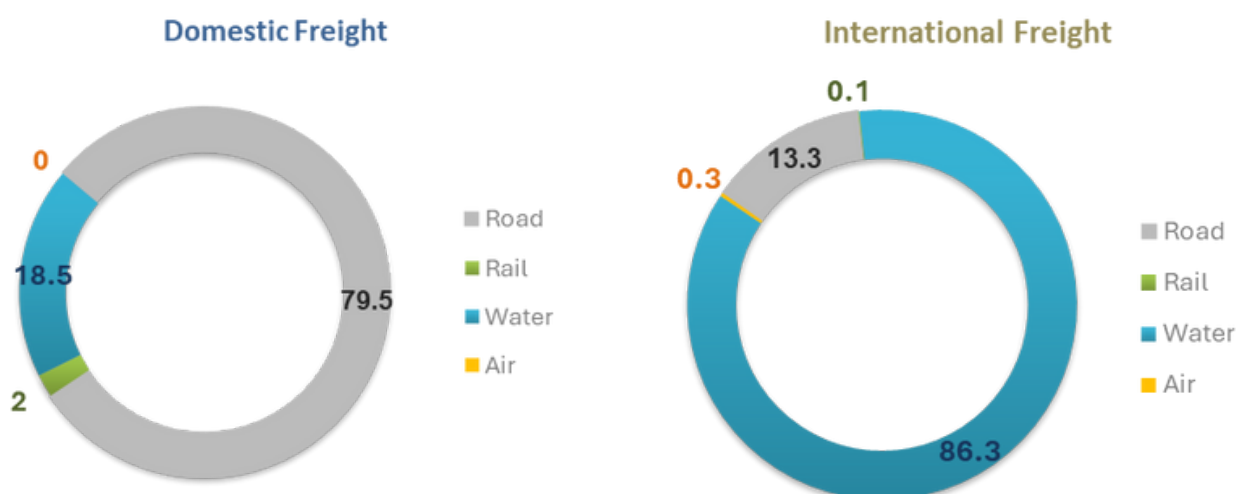


Figure 1: Thailand's Domestic and International Cargo Freight Proportion by Transport Mode in 2022 by MOT DATA CATALOG

Domestic Freight Distribution in 2022			International Freight Distribution in 2022		
Transport Mode	Percentage	Weight (Thousand Tons)	Transport Mode	Percentage	Weight (Thousand Tons)
Road	79.5%	460,316	Road	13.3%	40,699
Rail	2%	11,367	Rail	0.1%	292
Water	18.5%	107,425	Water	86.3%	264,250
Air	0	31	Air	0.3%	845
Total	100%	579,139	Total	100%	306,085

Table 1: Thailand's Domestic and International Cargo Freight Volume in 2022 by MOT DATA CATALOG

FEATURE ARTICLE: DEVELOP AND INCENTIVIZE FREIGHT/CARGO TRAIN OPERATIONS AND MANAGEMENT IN THAILAND (CONT.)

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However, Thailand has been pushing towards an ambitious overhaul. Over 3,000 km of track doubling has been on the development plan, with an investment surpassing 10 billion USD, which inherently creates vast capacity (see Figure 2 below). Yet, banking solely on passenger tickets is not a feasible strategy to ensure returns on such a colossal investment, especially given the existing debt of the State Railway of Thailand (SRT).

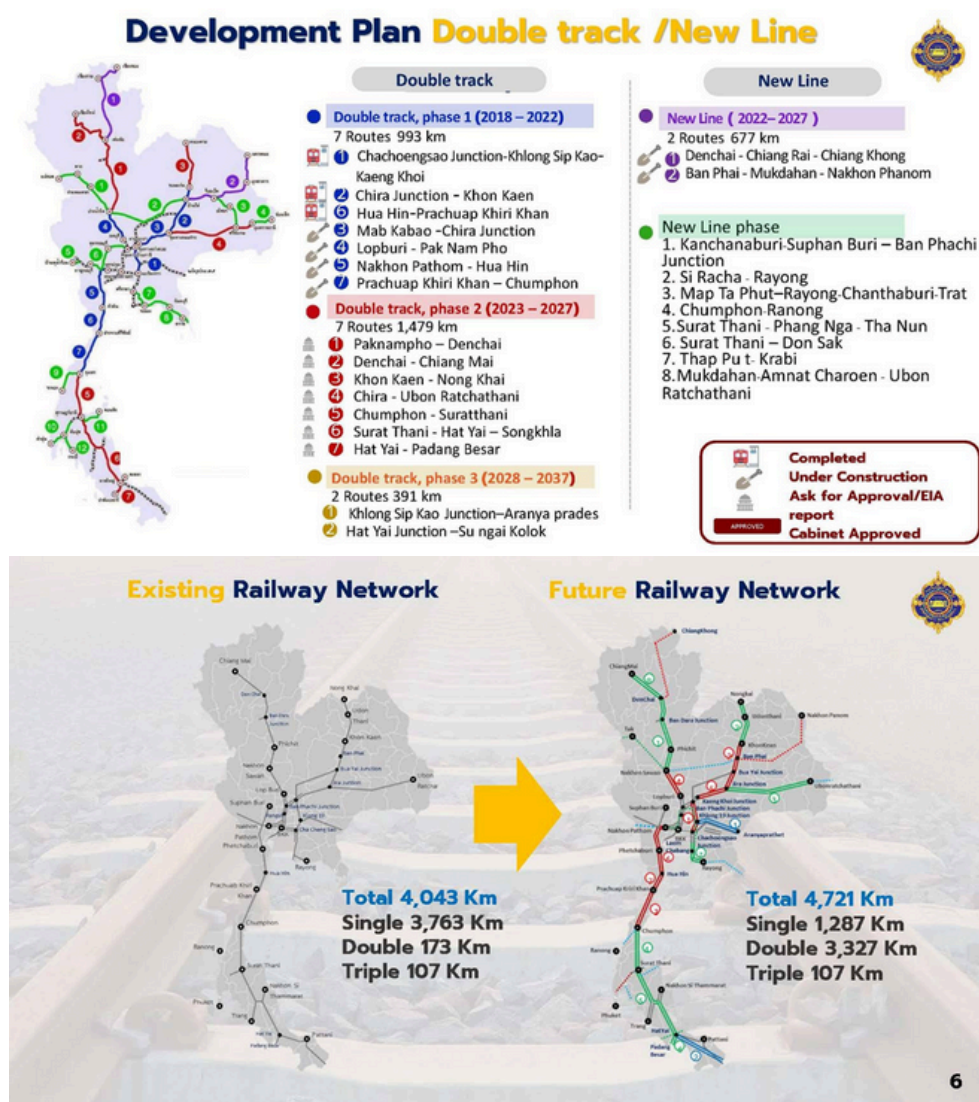


Figure 2: Double Track and New Railways Line Development Plan from Department of Rail Transport, Ministry of Transport (September 2023)

FEATURE ARTICLE: DEVELOP AND INCENTIVIZE FREIGHT/CARGO TRAIN OPERATIONS AND MANAGEMENT IN THAILAND (CONT.)

Author: Mr. Juergen Supik, CEO - Dorsch Consult Asia Co. Ltd.

Economic and Environmental Advantages of Rail

Rail transport offers significant benefits. Economically, it's much more cost-effective than road transport. Moving a tonne of freight by rail costs only 0.93 baht per kilometer, whereas the road demands almost double at 1.72 baht. Moreover, the environmental impact of rail transport is substantially less than its counterparts, making it an eco-friendlier option.

The Road Ahead: How Can We Optimize?

- **Utilizing Free Capacities:**

Given the current infrastructure and the potential of the rail network, cargo trains can effectively use the unutilized capacities.

- **Increase and diversify Cargo Train Capacities:**

There's an immediate need to increase the variety and quantity of cargo trains to cater to the capacity needs and diverse needs of the industry.

- **Creating multi-modal Transportation Hubs:**

Establishing these hubs at key nodes like industrial estates, harbors, airports, and international borders can streamline the cargo flow and enhance the efficiency of transitions between different modes of transportation.

- **Electrification:**

As of now, only 2% (168 km) of the rail network is electrified. It's imperative to rapidly expand overhead catenary systems. This would enhance efficiency, pave the way for green energy utilization, and diminish dependency on fossil fuels.

- **Privatization and IPO:**

A strategic move would be for the SRT to privatize its cargo operations. An Initial Public Offering, akin to DB Cargo AG in Germany, could generate the required cash flow for further capital expenditures and incentives.

FEATURE ARTICLE: DEVELOP AND INCENTIVIZE FREIGHT/CARGO TRAIN OPERATIONS AND MANAGEMENT IN THAILAND (CONT.)

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The Road Ahead: How Can We Optimize? (Cont.)

- **Incentivize Cargo Operations:**

Incentivizing Freight/Cargo Train Operations in Thailand should involve a combination of financial and regulatory strategies such as tax breaks, reduced customs duties, subsidies, mandatory quotas, easier procedures in special economic zones, carbon credits, etc.

- **Support Innovative Developments:**

Currently, most of the railways around the world have settled on using standard gauge, such as the Laos-China Railway, and through to China, Central Asia, and Europe. However, Thailand's railways are operating on its meter gauge technology under which only 8% of the world's railways are built. Therefore, to meet the specific needs of the local industries and local railway infrastructure, innovative developments are essential for the connection of international freight. While some technical solutions may either not be readily available in the market or be expensive, partnering with German industries could support technology transfer from standard gauge to meter gauge.

This could be the development of

- Multi-system wagons tailored for bulk, containers, and refrigerated items
- Special Loading/Unloading/Transfer Facilities and Equipment
- Advanced double-decker container bogies, equipped with auto-loading and unloading mechanisms.
- Whisper brakes for noise reduction
- State-of-the-art sensors and telematics for condition-based maintenance
- Optimised Booking & Logistic System: The flexibility of block train services for large clientele alongside bookings for single wagons, ensuring a fixed timetable

FEATURE ARTICLE: DEVELOP AND INCENTIVIZE FREIGHT/CARGO TRAIN OPERATIONS AND MANAGEMENT IN THAILAND (CONT.)

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Figure 3: Operating Industrial Estates across Thailand
from Industrial Estate Authority of Thailand

Thailand stands at a pivotal juncture where a blend of strategic initiatives and technological developments could kick-start its cargo train operations. By taking inspiration from successful examples, like the privatization of rail cargo in Germany or the overall integration of rail services in Europe, Thailand will not only optimize its own railway sector but also play a pivotal role in the regional transportation matrix.

- END of NEWSLETTER -