THE RAILWAY MARKET IN SOUTHEAST ASIA

Facts, Figures, Players, Trends
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The market for rail technology in Southeast Asia currently has a volume of approximately EUR 1.8 billion. The market will grow at a significantly higher level than other regions. SCI Verkehr expects growth of almost 6% per year to around EUR 2.4 billion in 2016. Though the region makes up only a small share of market volume for railway technology in Asia compared to China, India and Japan, the region is very interesting for international players due to its relative openness and low local competition.

Rail transport has played a minor role in most countries up to now. Inadequate infrastructure limits the development of rail transport performance, despite the high mobility demand. However, all the countries in the region are planning upgrades or expansions to their networks. This is motivated both by the need to accommodate rapidly growing populations in the major cities and by a desire to improve access to world markets for the region’s natural resources. But governmental budget constraints for financing rail investment are a large hurdle in all countries except Singapore. Though most countries receive financial aids from international organizations, e.g. ADB (Asian Development Bank), private investments are needed for the realization of a large share of planned projects. Contracts to international players are often combined with loans from credit institutes or governments of the country receiving the contracts. This is the reason why Chinese and Japanese companies have been leading suppliers of railway technology in past years.

SCI Verkehr expects significant growth for the Southeast Asian rail technology market for the next five years. The main drivers of this are:

- **New rail infrastructure for mega cities**: Out of 20 mega cities whose population exceeds 1 million, only 4 cities operate small urban rail systems. New metro and commuter rail projects will give strong impetus for future development.

- **Enhancement of railway freight transport**: Currently, transportation systems and infrastructures in most of the countries are dominated by road-based modes of transportation, which are in a poor condition in many countries. Construction of new freight rail lines to improve transportation of these nations’ vast natural resources will be an important driver for the market over the next five years.

- **Trans-Asian railway and engagement of China to improve the region’s railway transportation**: China has been investing huge sums in its own railway system and has built up an efficient railway industry. Now China is keen to export its railway technology abroad. Impetus for the construction of trans-Asian railways is mainly coming from China, which is willing to finance parts of the planned projects.
3 Market structures

3.1 Overview

Southeast Asia is one of the most dynamic, fast-growing regions in the world today. It offers a market of 590 million people, rich natural resources, skilled labour, and an export industry concentrated in global high-growth sectors – all tied together in a free-trade area, ASEAN.

[...]

Network length

Mainline and suburban network in Southeast Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>Infrastructure manager</th>
<th>Network length 2010 in km</th>
<th>Electrified network length 2010 in km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>PT Kereta Api</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>Royal Cambodian Railways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>Keretapi Tanah Melayu Berhad</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keretapi Negeri Sabah</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Express Rail Link Sdn Bhd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myanmar</td>
<td>Myanmar Railways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine National Railways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>Sri Lanka Railways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>State Railway of Thailand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td>Duong Sat Viet Nam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL Southeast Asia</td>
<td></td>
<td>20,700</td>
<td>360</td>
</tr>
</tbody>
</table>

Source: Railway Directory 2010, SCI/DATABASE

[...]

3.2 Singapore

<table>
<thead>
<tr>
<th>Mainline network length</th>
<th>Urban rail network length</th>
<th>Mainline rolling stock fleet</th>
<th>Urban rail rolling stock fleet</th>
</tr>
</thead>
<tbody>
<tr>
<td>No mainline railway</td>
<td>132-route-km metro</td>
<td>No mainline railway vehicles</td>
<td>Metro vehicles: 900 cars</td>
</tr>
</tbody>
</table>

[...]

The small size of Singapore means that it has little need for mainline rail services, but it is preparing for continued strong growth in the size of its population. Two operators, SMRT and SBS, operated a 132-route-km metro network by the end of 2010. SMRT operates the North-South, East-West and Circle Lines, which had a total length of 110 km in 2010, and will be extended to 126.6 km by the end of 2011. SBS operates the 20-km North-East Line. SMRT also operates one people mover line and SBS two people mover lines, which are not considered in this study. [.....]
4 The Market for Infrastructure and System Technology

4.1 Mainline and suburban railway transport: Infrastructure and signalling projects

Major contracted projects in recent years

<table>
<thead>
<tr>
<th>Country</th>
<th>Project title</th>
<th>Distance in km</th>
<th>Financial volume (EUR million)</th>
<th>(Expected) completion</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>Turnkey rail Grasberg mine</td>
<td>19</td>
<td>90</td>
<td>2013</td>
<td>Alstom will supply the rail, catenaries, substations and the signalling and telecommunications systems for a future underground rail network for mining company PT Freeport Indonesia, in the province of West Papua.</td>
</tr>
</tbody>
</table>

[...]

Major planned infrastructure projects

<table>
<thead>
<tr>
<th>Country/City</th>
<th>Project title</th>
<th>Distance in km</th>
<th>Financial volume (EUR million)</th>
<th>(Expected) completion</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>Coal railway Puruk Kahu - Bangkuang (Central Kalimantan)</td>
<td>185</td>
<td>1,500</td>
<td>2015</td>
<td>The tender process for a coal railway in Central Kalimantan is still underway and no winner has been selected. The proposed Puruk Cahu - Bangkuang railway is the first phase of a Central Kalimantan coal railway slated to cover 1,829 km. The BOT contract includes a 185-km railway connecting coal mines and ports, to be served by the winning bidder for 30 years.</td>
</tr>
</tbody>
</table>

4.2 The market for infrastructure: Track systems and electrification

<table>
<thead>
<tr>
<th>Southeast Asia Infrastructure</th>
<th>Track systems</th>
<th>Electrification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main line km 2010</td>
<td><img src="image1" alt="Diagram" /></td>
<td><img src="image2" alt="Diagram" /></td>
</tr>
<tr>
<td>Average development 2011-2016 (p.a.)</td>
<td><img src="image3" alt="Diagram" /></td>
<td><img src="image4" alt="Diagram" /></td>
</tr>
<tr>
<td>Urban rail km 2010</td>
<td><img src="image5" alt="Diagram" /></td>
<td><img src="image6" alt="Diagram" /></td>
</tr>
<tr>
<td>Average development 2011-2016 (p.a.)</td>
<td><img src="image7" alt="Diagram" /></td>
<td><img src="image8" alt="Diagram" /></td>
</tr>
</tbody>
</table>

- **Boom/strong growth**
- **Small growth**
- **Stagnation**
- **Small decrease**
- **Clear decline**
The Market for Rolling Stock

5.1.1 Definition and market delimitation

[...]

5.1.2 Installed base and development of stock

Southeast Asia operates 1,760 metro cars across four metro systems. More than 50% of the fleet are in Singapore, 32% in Kuala Lumpur, 12% in Bangkok and 4% in Manila.

In contrast to other rolling stock segments, metro operations are partly contracted to private companies under concessions:

[...]
5.1.3 Contracted procurement projects

<table>
<thead>
<tr>
<th>Country / Operator</th>
<th>Cars</th>
<th>Vehicle type / line</th>
<th>Delivery</th>
<th>Manufacturer</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia / RapidKL</td>
<td>228</td>
<td>Metro: used cars</td>
<td>2012-2014</td>
<td>Japanese consortia</td>
<td>The Tokyo Metro will deliver 228 used metro-cars to the metro operator of Kuala Lumpur at no charge. The cars, with an average life expectancy of 20 years, are worth EUR 512 million. The delivery should start in 2012.</td>
</tr>
</tbody>
</table>

5.1.4 Announced procurement projects

<table>
<thead>
<tr>
<th>Country / City</th>
<th>Cars</th>
<th>Vehicle type</th>
<th>(Expected) delivery</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand / Bangkok</td>
<td>100</td>
<td>Metro</td>
<td>2013-2015</td>
<td>Expected procurement for the Purple Line (23km), which is going to start operating in 2013.</td>
</tr>
</tbody>
</table>

5.1.5 Market volume and outlook

Starting from a high level, market volume for new procurement of metro vehicles will increase further significantly with a CAGR of 14%. After-sales market volume and installed base will also increase in lockstep with new procurements.

5.1.6 Suppliers

[...]
I would like to order the Multi Client Study “The Railway Market in the Southeast Asia – Facts, Figures, Players, Trends”

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Issue</th>
<th>Language</th>
<th>Single price*</th>
<th>Total price*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Electronic version***</td>
<td>English</td>
<td>3,000 €</td>
<td></td>
</tr>
<tr>
<td></td>
<td>First copy print</td>
<td>English</td>
<td>3,200 €</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ additional copies **</td>
<td>English</td>
<td>600 €</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electronic version + 1 print version***</td>
<td>English</td>
<td>3,400 €</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total price*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Company

Contact person (Title, first name, surname)

Position

Address (Street, town, postcode)

VAT Number (for customers in member states of the European Union)

or other invoicing address or order number

Tel

Fax

Email

I would like to pay by prepayment ☐ / I would like to pay by credit card**** ☐ / Invoice ☐

Please charge the total sum to my credit card.

- Visa
- Eurocard / Mastercard
- American Express

Card number / / / Valid until CVV number

Date

Signature / stamp

* All prices exclude delivery costs and VAT
** Only in combination with a first copy in the same language
*** Electronic version (single-user version/PDF). Total three users possible. Printing is permitted.
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