Overview of Southeast Asia and Malaysia Market

End use industries and Paints & Coatings

“*We Accelerate Growth*”

Presented to Malaysian Paint Manufacturers’ Association
April 8, 2016
Agenda

1. Southeast Asia Macroeconomic environment
2. South East Asia Construction & Infrastructure Outlook
3. Malaysia - Coatings Market Snapshot
4. Conclusion

NOTE
Southeast Asia (SE Asia/ SEA), includes Indonesia, Malaysia, Thailand, Philippines, Vietnam, Singapore
Southeast Asia Macroeconomic environment
Growth in Southeast Asia, though slowed down, is still at above average world growth rates

- Post a dip in 2014, Southeast Asia rebounded moderately to grow at ~ 5% in 2015, above the global average growth rate of ~ 3.5% in 2015
- World average has slowed down since 2011 (~ 4.2%), however, it is showing signs of moderate revival over next few years

Source: Frost & Sullivan
SE Asia’s economy, is still expanding rapidly, despite the overall slowdown

• Southeast Asia is projected to grow at a CAGR of ~ 7.5-8% during 2015-19, and is expected to be nearly double of its value in 2010

Source: IMF; UKABC; Frost & Sullivan
Across all Southeast Asian economies, rising urbanization trend will contribute to the construction industry growth, thereby, bolstering the demand in coatings market.

- Rising middle class population and increasing disposable income will drive the growth in demand for high-quality coatings.
- As the construction industry flourishes, the demand for various types of coatings will increase in each country.

Note: SE Asia includes Singapore, which is 100% urban, in addition to Indonesia, Philippines, Malaysia, Thailand and Vietnam

Source: Word Bank, IMF
Rising middle class population and increasing disposable income will drive up the demand for high quality coatings.

- Southeast Asia is a growing market of ~ 620 million people with a combined GDP of ~ $2.5 trillion as of 2015
- Middle class in Southeast Asia is growing with surging urbanization, and is projected to account for 65% of the population by 2030, thereby, spurring the demand for high quality coatings
- Indonesia, Vietnam and Philippines have the largest population and also host fast growing middle class population, which will drive the demand for high quality coatings

Source: The New Global Middle Class: A Crossover from West to East, China’s Emerging Middle Class: Beyond Economic Transformation; Frost & Sullivan
Emerging Asia as a whole is tipped to be the world’s fastest growing construction market, accounting for ~ 40-45% share in global construction market

World construction industry value is set to grow to USD 6.1 Trillion by 2024 from USD 3.7 Trillion in 2015, at a CAGR of 5.7%

Key SEA* economies - Large population, increased urbanization and rising purchasing power will translate into sharp growth in number of middle-income households within Asia. Middle Class in Indonesia is set to increase three fold by 2020 and reach 100 million by 2030.

Source: BMI Research 2015; Frost and Sullivan
NOTE: * SEA ~ Southeast Asia, including Indonesia, Malaysia, Thailand, Philippines, Vietnam, Singapore
Urbanization, and evolution of regions and cities: Malaysia
By 2025, almost 80% of the Malaysian population will live in urban areas, up from 74% in 2015, the highest urbanization rate among the developing ASEAN countries.

West Malaysia and Klang Valley account for nearly 80% and 24% respectively, of Malaysia’s total population. Klang Valley to contribute US$253 billion to the GDP by 2025.

In 2013, 93.5% of the population lived in urban areas in Klang Valley.

In 2025, almost 80% of the Malaysian population will live in urban areas, up from 74% in 2015, the highest urbanization rate among the developing ASEAN countries.

Note: A Mega City is a city with population of more than 8.0 million and a GDP of US$250 billion or more. Mega Region: Cities combine with suburbs to form regions with a population over 15 million.

Source: Department of Economics and Social Affairs, UN; International Institute of Applied System Analysis; Frost & Sullivan
**Infrastructure led investments and growth: Malaysia**

Construction industry growth to be driven by long-term infrastructure projects, and by Government initiatives such as ETP*, and 11MP**

Subdued real estate demand, largely due to the reduced growth in wider economy and residential oversupply, is the key reason behind a relative slowdown in the construction industry value projections.

**Construction industry value in Malaysia**

**Projected real growth rates (%), Malaysia**

Source: BMI; Frost & Sullivan

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**F R O S T & S U L L I V A N**

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NOTE: 1. e - estimated, f – forecasted
2. * ETP - Economic Transformation Program
3. ** 11MP – Eleventh Master Plan
Urbanization, and evolution of regions and cities: Thailand

Bangkok & East to continue to grow substantially across all 3 segments; South leads in forecasted non-residential construction activity; North and NE to witness significant infrastructure development

- **Hotspots**
  - Chiang Mai & Pisanulok ~ high demand for condominiums,
  - Chiang Rai, Pak Nam Pho, Mae Sod district ~ gateway to Myanmar,
  - Chiang San and Chiang Kong ~ gateway to Laos
- **Driving segment – Infrastructure** (high speed rail projects)
- **Residential** ~ driven by condominiums
- **Non-residential** ~ driven by restaurants and commercial shops

- **Hotspots**
  - Ayutthaya, Kanchanaburi
- **Driving segment - Infrastructure** (transportation and energy projects)
- **Residential** ~ driven by condominiums and apartments
- **Non-residential** ~ driven by hotels

- **Hotspots**
  - Surat Thani, Phuket, Hat Yai ~ gateway to Malaysia
- **Driving segment - Non Residential** (hotels, restaurants, commercial shops, resorts)
- **Residential** ~ driven by apartments
- **Infrastructure** ~ driven by rail and energy

- **Hotspots**
  - Nakhon Ratchasima, Khon Kaen, Nakhon Panom, Nong Khai
- **Driving segment – Infrastructure** (rail and bridges)
- Residential ~ driven by condominiums
- Non-residential ~ restaurants, shops, hotels (mainly in Nakhon Ratchasima)
- Large property developers such as Land and Houses, Prueksa Real Estate, Sansiri, AP and Quality House – Property Investment, are investing heavily in NE

- **Hotspots**
  - Bangkok, Rayong and Chonburi (Pattaya)
- **Driving segment**
  - **Infrastructure** ~ MRT, airport expansion,
  - **Residential** ~ condominiums
  - **Non-residential** ~ industrial, restaurants, commercial shops
- The expansion of mass transit lines is likely to generate new residential demand in Bangkok's neighboring townships like Nonthaburi, Pathumthani and Samut Prakarn
- Chonburi is home to Thailand’s largest seaport and as such there is strong demand for logistics and warehouse space.

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*Frost & Sullivan*
Infrastructure led investments and growth: Thailand

In line with continual growth in public investments such as Infrastructure Investment Plan 2015-22 (~ THB 2.4 trillion), construction industry growth in Thailand to be led by infrastructure development.

Private residential and non-residential (e.g. corporate office) demand is driven by growing urbanization, development of the AEC, lower cost of living and lower corporate Income tax.

Construction industry value in Thailand, 2013-20

Source: BMI; Frost & Sullivan

NOTE: 1. e - estimated, f – forecasted
Urbanization, and evolution of regions and cities: Indonesia

Over 175 Million Indonesians to live in urban areas by 2025; Mega City Jakarta to contribute nearly US$700 Billion to Indonesia’s GDP by 2025; Mega Region JaBoDeTaBek to account for 11% of Total Population by 2025

Source: BAPPENAS; Department of Economics and Social Affairs, UN; International Institute of Applied System Analysis; Frost & Sullivan
Construction industry growth in Indonesia to be driven by massive demand from low end and luxury property – leading to a shift towards low priced and high priced coatings

Indonesia plans to invest USD 150 Billion in RPJMN* (2010-14) and USD 468 Billion in MP3EI**, with 70% of the combined total of this investment to be fetched via PPP projects

- Strong middle class consumer spending made the residential business segment (houses, apartments and condominiums) the largest contributor to Indonesia’s property growth, accounting for about 60 percent of the total property sector
- Indonesia is already being plagued by a backlog of 13.5 million property units and therefore President Joko Widodo launched the “One Million Houses Program” in April 2015 - construction of 10 million new houses for the country’s low-income people between 2015 and 2019
- Implementation of “Green building code” will slowly increase the demand of green materials
- Indonesian government announced it will allow foreigners to own luxurious apartments with a minimum value of IDR 5 billion – leading to 20% growth in luxury property

Source: BMI; Frost & Sullivan

** NOTE: * RPJMN - National Medium-Term Development Plan; ** MP3EI - Masterplan for the Acceleration and Expansion of Indonesia’s Economic Development Plan
Construction industry growth in Vietnam to be driven by the positive regulatory changes, robust economic growth and favourable funding conditions

- The residential building segment is on track for a recovery, with strong growth in demand in 2015. Easing of foreign ownership restrictions will also help to spur demand, in turn boosting construction activity.
- With a considerable number of foreign manufacturers setting up production bases in the country, demand is also on the rise for industrial properties, including industrial parks, warehouses and logistics facilities.
- Vietnam’s growing middle-income class and its influx of foreign investment has resulted in rising demand for better quality homes and commercial buildings and has also boosted the upmarket property segment, which is dominated by foreign developers.
- Introduced new ‘Housing Law’ and the ‘Law on Real Estate Business’ (passed in November 2014), which reduce the restrictions on foreign ownership of residential and commercial properties.
Construction industry growth in Philippines to be driven by growth in public construction activity as the government’s Public-Private Partnership programme gains traction and sustained momentum in private construction activity

**Construction Industry Value in Philippines, in USD Billion, 2014-2021**

Historical (4-Year) CAGR ~ 6.84%

Projected (4-Year) CAGR ~ 6.73%

<table>
<thead>
<tr>
<th>Period</th>
<th>CAGR (%), Residential and Non-residential</th>
<th>CAGR (%), Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-17</td>
<td>6.86%</td>
<td>6.76%</td>
</tr>
<tr>
<td>2018-21</td>
<td>8.91%</td>
<td>8.44%</td>
</tr>
</tbody>
</table>

- The upcoming elections in mid-2016 will weigh on growth, as a likely shift in leadership will cause a review of planned and ongoing development projects.
- The Housing and Land Use Regulatory Board (HLURB) has set a target to construct 1 million housing units by 2016, and also announced the construction of over 300 condominium projects in Metro Manila, most of which will be allocated to the mid-market segment.
- The robust growth in the domestic construction industry is sustainable largely because of the phenomenal low interest rate regime.
- Besides strong residential project construction, other factors that will drive the growth of the construction sector are the strong services income coming from the business process outsourcing (BPO) sector and the robust remittance inflows that will boost housing demand.

Source: BMI; Frost & Sullivan
Malaysia - Coatings Market Snapshot

Trends in other key end-use industries
**Infrastructure led investments and growth: Malaysia**

Construction industry growth to be driven by long-term infrastructure projects, and by Government initiatives such as ETP*, and 11MP**

Growth potential in Malaysian housing market is modest compared to other key SE Asian economies - Malaysia’s mortgage to GDP ratio is >30%, which is well above that for Indonesia, Thailand and the Philippines

Construction industry value in Malaysia

<table>
<thead>
<tr>
<th>Year</th>
<th>Value (MYR billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013e</td>
<td>14.7</td>
</tr>
<tr>
<td>2014e</td>
<td>16.6</td>
</tr>
<tr>
<td>2015f</td>
<td>19.3</td>
</tr>
<tr>
<td>2016f</td>
<td>21.5</td>
</tr>
<tr>
<td>2017f</td>
<td>23.6</td>
</tr>
<tr>
<td>2018f</td>
<td>25.8</td>
</tr>
<tr>
<td>2019f</td>
<td>28.2</td>
</tr>
<tr>
<td>2020f</td>
<td>30.7</td>
</tr>
</tbody>
</table>

Projected real growth rates (%), Malaysia

<table>
<thead>
<tr>
<th>Year</th>
<th>Infrastructure</th>
<th>Residential and Non-residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013e</td>
<td>9.8%</td>
<td></td>
</tr>
<tr>
<td>2014e</td>
<td>10.9%</td>
<td></td>
</tr>
<tr>
<td>2015f</td>
<td>9.2%</td>
<td></td>
</tr>
<tr>
<td>2016f</td>
<td>7.1%</td>
<td></td>
</tr>
<tr>
<td>2017f</td>
<td>5.6%</td>
<td></td>
</tr>
<tr>
<td>2018f</td>
<td>5.6%</td>
<td></td>
</tr>
<tr>
<td>2019f</td>
<td>4.7%</td>
<td></td>
</tr>
<tr>
<td>2020f</td>
<td>4.6%</td>
<td></td>
</tr>
</tbody>
</table>

Subdued real estate demand, largely due to the reduced growth in wider economy and residential oversupply, is the key reason behind a relative slowdown in the construction industry value projections.

*Source: BMI; Frost & Sullivan*

NOTE: 1. e - estimated, f – forecasted
2. * ETP - Economic Transformation Program
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diagram: Infrastructure projected to grow faster
Government focusing on supporting the underserved affordable housing segment
While overall automotive production has slowed down in recent years, it is expected to grow at CAGR ~ 3-3.5% over next 3-5 years, due to a modest economic growth rebound.

- Malaysia has emerged as the third largest automotive production hub in the Southeast Asian region.
- Automotive production in Malaysia is expected to reach 722,501 by 2019, at a CAGR of 3.5% between 2012 and 2019.
- The Malaysian Government is increasingly focusing on boosting the production of energy-efficient vehicles such as hybrid vehicles, electric vehicles, and other vehicles powered by alternative fuels such as Compressed Natural Gas (CNG), liquefied petroleum gas (LPG), bio-diesel, ethanol, hydrogen, and fuel cell.
- The government declared exemptions on import tax and excise duty on Completely Knocked Down (CKD) hybrid vehicles imported between 1 January 2014 and 31 December 2015. For CKD electric vehicles, the period has been extended till 31st December 2017.

Source: Department of Land Transport
Growth in number of vehicles on road has been slow especially over the past 2-3 years (CAGR 2012-14 ~ 2.8%), signalling dip in car sales

- Removal of fuel subsidies has led to higher operating expenses for manufacturers and distributors and reduced disposable income for consumers
- The used-car market has been declining over the years due to intense competition in terms of price points from new cars
- GST implementation in 2015 and decline in used car market has negatively impacted the demand for refinish coatings

Source: Department of Land Transport
Ranked as the 10th largest exporter of furniture in the world, Malaysia exports around 80% of its production.

- Malaysia has always been known for its wood based furniture, owing to its natural resources. The government has set an annual growth target of 6.5% for wood based furniture, estimated to reach up to RM53 billion by year 2020.
- In recent years, the growth has shifted from producing general products towards designing its own, and this has been key in propelling Malaysia onto the international arena. Popular with overseas buyers of the middle to high category, foreign buyers look to Malaysia for manufacturers who can meet their high production demand.
- The government also plays an important role in nurturing the industry. Providing Pioneer Status for tax exemption and Investment Tax Allowance, the pro-business environment makes doing business easier and faster.
- Slowdown in furniture production is expected due to the slowdown in the domestic and export furniture demands. Increasing competitive pricing from neighbouring countries, such as Indonesia and China, for finished furniture would hinder growth of wood coatings in Malaysia.

**Malaysia furniture export value**

**Malaysia main Importers**

- USA 31%
- Japan 10%
- Singapore 9%
- Australia 5%
- United Kingdom 5%
- Canada 4%
- UAE 4%
- Others 32%
The electronics industry is focused on deepening and strengthening the three major ecosystems of semiconductors, solar and LED technologies.

The electrical and electronics (E&E) industry is a key driver of Malaysia's industrial development and contributes significantly to GDP growth, export earnings, investment and employment.

- Malaysia is a key player in the fast expanding E&E market, its major export destinations include China, US, Singapore, Hong Kong and Japan.
- The E&E industry is targeted under the National Key Economic Areas (NKEA) to gear the nation towards high-income economy by focusing on high-value and high-growth manufacturing activities.
- The growth of semiconductor will continue to spearhead the growth of the E&E industry in Malaysia and has benefited from the global demand in the usage of mobile devices (smartphones, tablets), storage devices (cloud computing, data centres), optoelectronics (photonics, fibre optics, LEDs) and embedded technology (integrated circuits, PCBs, LEDs).

Source: MITI, MARTRADE
Coatings Market Snapshot

Coatings market situation
Malaysia’s coating market is dominated by decorative, protective and automotive OEM segments

Malaysia Coatings Market: Top Three Key Segments

1. Decorative Coatings
   - ~ 53-55%
   - Driven by growing population and construction of new residential and commercial projects

2. Protective Coatings
   - ~ 12-15%
   - Expected to be the key growth segment over next 3-5 years
   - Investments in developing transport infrastructure - such as roads and railways as well as energy & utilities infrastructure such as refineries and petrochemical complexes drives the protective coatings segment

3. Automotive-OEM Coatings
   - ~ 7-8%
   - Growth will come from product innovation that can help OEMs increase their productivity
   - E.g. Axalta’s wet-on-wet 2 tone process for Ford, BASF’s Integrated Process II

NOTE: % mentioned above indicate approximate share of coating segment in overall market as of 2015

Source: Frost & Sullivan
Environmental Implications: Green agenda and regulations are key as companies strive to comply with lower volatile organic chemical (VOC) requirements via technology innovations

<table>
<thead>
<tr>
<th>Programs / Regulations</th>
<th>Particulars</th>
</tr>
</thead>
</table>
| Registration, Evaluation, Authorization and Restrictions of Chemicals (REACH)        | • Chemicals can be used in coatings only if they are registered  
• Aims to **restrict the production of solvent-based coatings**                                                                                                                                       |
| International Maritime Organization (IMO)                                             | • Regulations are **focused on environment protection**  
• Encourages coatings with higher solid content and abrasion-resistant characteristics, reduction in CO2 emissions and fuel consumption, and limiting VOC emissions |
| Regional Environmentally Sustainable Cities in ASEAN Program (RESCP)                  | • Focuses on environmental management in urban areas ~ clean air and emissions from stationary and mobile sources                                                                                           |
| Other Local Country Policies and Standards (Singapore’s Green Labelling Scheme)       | • Addresses the effects of a product on the environment and fixes limits for compliance                                                                                                                  |

- Increasingly, companies are looking at water-based coatings as a replacement for solvent-based coatings; especially in the decorative coatings segment
- Consumers in Malaysia and Thailand are showing increasing inclination towards eco-friendly coatings due to increased environmental awareness

**Source:** Singapore Environment Council; Frost & Sullivan
Paint Manufacturers in Malaysia and overall South East Asia are increasingly looking towards green and sustainable coatings to replace their high VOC counterparts.

**Low-VOC, water-based coatings are the most popular** sustainable coatings option among manufacturers.

However, manufacturers are facing challenges in achieving an optimum balance for water-based coatings, in terms of film formation, hardness, and block resistance.

**Renewable raw materials are the second-most popular** option.

Manufacturers are always looking for less-expensive alternatives to produce paints.

A popular renewable raw material among manufacturers is unsaturated vegetable oil due to its flexibility and availability.

**100% solid coatings**, which mainly include powder coatings and UV/EB (ultra-violet/electron beam) curable coatings, are the **third most popular** option.

These require low storage space than solvent and water-based coatings.

Other options include anti-viral paints with the health and wellness theme. And anti-reflective paints with cooling agents to ensure energy efficient homes.

Source: Frost & Sullivan
Conclusion
Key takeaways for coating manufacturers – Malaysia and other SE Asia

Product technology related

- Driving shifts in technology from solvent borne to water borne/solvent less, will be crucial for market development and differentiation in long term
- E.g. Concrete flooring, wood & metal construction

Product portfolio diversification

- Leading coating manufacturers are leveraging their brand to capture business adjacencies, by entering into related areas
- E.g. waterproofing chemicals, other façade products

Geographic expansion

- Market leaders are expanding their geographic footprint to tap into booming markets, outside Malaysia
  - E.g. Vietnam, Philippines

Channel related

- Manufacturers with strong presence in project sales channel are expected to benefit with growth in infrastructure segment
  - For other players, building capabilities in this channel will be crucial

Source: Frost & Sullivan
Thank You