

# Independent Market Research on the Paint and Coating Industry in Selected Southeast Asian Countries

---

Final Report

May 2017

© May 2017 Frost & Sullivan

The market research process for this study has been undertaken through secondary/desktop research as well as primary research, which involves discussing the status of the industry with leading participants and experts. The research methodology used is the Expert Opinion Consensus Methodology.

Quantitative market information is subject to fluctuations due to possible changes in the business and industry climate. Frost & Sullivan's estimates and assumptions are based on varying levels of quantitative and qualitative analyses, including industry journals, company reports and information in the public domain.

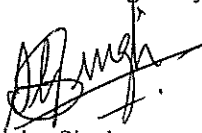
Forecasts, estimates, predictions, and other forward-looking statements contained in this report are inherently uncertain because of changes in factors underlying their assumptions, or events or combinations of events that cannot be reasonably foreseen. Actual results and future events could differ materially from such forecasts, estimates, predictions, or such statements.

This study has been prepared for inclusion in the English language offering circular and Thai language prospectus (collectively, the "Offering Documents") of TOA Paint (Thailand) Public Company Limited ("the Company") in relation to an initial public offering in connection with its listing on the stock exchange of Thailand ("the Listing").

Save for the inclusion of this study in the Offering Documents issued by the Company and in such presentation materials prepared by or on behalf of the Company (reviewed by Frost & Sullivan) in relation to the Listing, no part of it, except in connection with any due diligence or similar defense which the company or the underwriters participating in the listing may wish to advance, may be otherwise given, lent, resold, or disclosed to non-customers without our written permission.

Frost & Sullivan has prepared this study in an independent and objective manner, and it has taken adequate care to ensure its accuracy and completeness. We believe that this study presents a true and fair view of the paint and coating industry in select countries in Southeast Asia within the limitations of, among others, secondary statistics and primary research, and it does not purport to be exhaustive. Our research has been conducted with an "overall industry" perspective, and it may not necessarily reflect the performance of individual companies in the industry. Frost & Sullivan shall not be liable for any loss suffered because of reliance on the information contained in this study, except as provided in our separate engagement letter with the company dated 2<sup>nd</sup> February, 2017. This study should also not be considered as a recommendation to buy or not to buy the shares of any company or companies as mentioned in it or otherwise.

Authorized Signatory



Sanjay Singh

Vice President

Frost & Sullivan (S) Pte Ltd

100 Beach Road #29-01/11 Shaw Tower

Singapore 189702

## Table of Contents

<b>1. EXECUTIVE SUMMARY .....</b>	<b>4</b>
1.1.1. BRIEF MACROECONOMIC OVERVIEW OF SOUTHEAST ASIA (SEA).....	4
1.1.2. INDUSTRY SEGMENTATION AND DEFINITIONS .....	5
1.1.3. VALUE CHAIN AND DISTRIBUTION CHAIN ANALYSIS .....	6
1.1.4. MARKET SIZING AND FORECASTS .....	8
1.1.5. COMPETITIVE LANDSCAPE.....	12
1.1.6. INDUSTRY OUTLOOK.....	17
<b>2. THE PAINT AND COATING INDUSTRY IN THAILAND.....</b>	<b>19</b>
2.1.1. BRIEF ECONOMIC OVERVIEW OF THAILAND.....	19
2.1.2. MACRO-ECONOMIC OVERVIEW OF THAILAND .....	20
2.1.3. SOCIO-ECONOMIC OVERVIEW OF THAILAND .....	24
2.1.4. OVERVIEW OF THE PAINT AND COATING INDUSTRY IN THAILAND .....	29
2.1.5. VALUE CHAIN AND DISTRIBUTION CHAIN ANALYSIS .....	32
2.1.6. DRIVERS OF THE PAINT AND COATING INDUSTRY .....	34
2.1.7. BARRIERS TO ENTRY .....	41
2.1.8. KEY REGULATIONS GOVERNING THE INDUSTRY .....	42
2.1.9. MARKET SIZING AND FORECASTS .....	44
2.1.10. COMPETITIVE LANDSCAPE ANALYSIS .....	47
2.1.11. MARKET SHARE ESTIMATES AND PROFILES OF RETAIL DECORATIVE AND RETAIL NON-DECORATIVE PAINT AND COATING COMPANIES IN THAILAND.....	48
2.1.12. INDUSTRY PROSPECTS & OUTLOOK .....	52
<b>3. THE PAINT AND COATING INDUSTRY IN VIETNAM.....</b>	<b>53</b>
3.1.1. OVERVIEW OF THE PAINT AND COATING INDUSTRY IN VIETNAM.....	53
3.1.2. VALUE CHAIN AND DISTRIBUTION CHAIN ANALYSIS .....	56
3.1.3. MARKET SIZING AND FORECASTS .....	57
3.1.4. COMPETITIVE LANDSCAPE ANALYSIS .....	59
3.1.5. MARKET SHARE ESTIMATES AND PROFILES OF RETAIL DECORATIVE AND NON-DECORATIVE PAINT AND COATING COMPANIES IN VIETNAM.....	59
3.1.6. INDUSTRY PROSPECTS & OUTLOOK .....	63
<b>4. BRIEF OVERVIEW OF THE PAINT AND COATING INDUSTRY IN CAMBODIA, LAOS, MYANMAR, MALAYSIA, AND INDONESIA .....</b>	<b>64</b>
4.1.1. OVERVIEW OF THE PAINT AND COATING INDUSTRY .....	64
4.1.1.1. VALUE CHAIN AND DISTRIBUTION CHAIN ANALYSIS .....	68
4.1.2. MARKET SIZING AND FORECASTS .....	69
4.1.3. COMPETITIVE LANDSCAPE.....	73
4.1.4. INDUSTRY PROSPECTS & OUTLOOK .....	76
<b>5. BRIEF OVERVIEW OF THE SOUTHEAST ASIA NON-DECORATIVE PAINT AND COATING INDUSTRY .....</b>	<b>77</b>
<b>6. OVERVIEW OF PROSPECTS FOR THE COMPANY IN THE INDUSTRY.....</b>	<b>79</b>

# 1. EXECUTIVE SUMMARY

## 1.1.1. Brief Macroeconomic Overview of Southeast Asia <sup>1</sup>(SEA)

The selected Southeast Asian countries, combined, accounted for approximately 76.0% of ASEAN's total GDP in 2016E. Most of the selected Southeast Asian economies had been on a growth track during the last two decades (1990-2010) on the backdrop of factors such as economic liberalization, urbanization, increasing domestic consumption and government spending, among many others. During the same period, both Thailand and Vietnam catapulted themselves from low-income countries to upper-middle income and middle-income countries, respectively, while at the same time transforming into industrial and services-based economies from economies that were once largely dependent on agriculture. The industrial and services sectors combined contributed to more than 60.0% of Thailand's GDP between 2011 and 2016. During this period, the country was affected by various factors such as floods, political unrests and decline in global commodity prices, among many others. But the economy remained resilient owing to increased government spending, rising private consumption and a steady source of revenue from tourism. Thailand's economic growth in the forecast period will largely depend on steady growth in private consumption, implementation of the government's long term strategic plan, stable inflation rates and the possibility of return to democratic rule.

Vietnam's growth, on the other hand, was driven by a holistic socioeconomic development. This resulted in improved living standards including availability of electricity, clean water and sanitation, and access to basic education and healthcare. Trade and investments with regional and global economies also fueled growth. Many social and economic indicators in Vietnam such as maternal mortality rates, access to basic education and infrastructure, availability of electricity, access to clean water, and sanitation have shown substantial improvements in the past three decades from 1986 to 2016. Over this period, Vietnam has achieved many of its Millennium Development Goals ahead of time. Economic integration with regional and global participants has also boosted trade and investment in the country. With the current Socio-Economic-Development Strategy 2011-2020 being implemented through development of infrastructure, establishment and improvisation of market institutions and nurturing of proper human resource required for modern industries, the economy of Vietnam can be expected to reach new heights during the forecast period of 2016 to 2021.

Economic growth in the other Southeast Asian countries is expected to be driven by urbanization (Indonesia, Malaysia, Laos), government spending on infrastructure (Myanmar, Indonesia, Malaysia), foreign trade and investments (Myanmar, Cambodia), to name a few. The Indonesian president is currently pursuing an ambitious five-year billion-dollar plan to upgrade roads, ports, water and power plants. Indonesia is the second largest car manufacturer in Asia after Thailand with the production of passenger vehicles forecast to reach approximately 2.6 million by 2020, and this is expected to provide an impetus to the economic growth in the country. Similarly, the Malaysian government also plans to develop the country's infrastructure under the 11th Malaysia Plan 2016–2020 which in turn is likely to improve the overall economic activity. Myanmar is also set to grow economically following the 12-point policy declaration by the government, targeted at broad social and economic reforms in the country. While Cambodia's signing up of the Sustainable Development Investment Partnership (SDIP)<sup>2</sup> is expected to unlock the funding of infrastructure projects through PPPs, Laos' economic growth is likely to be determined by increased disposable incomes in the country.

---

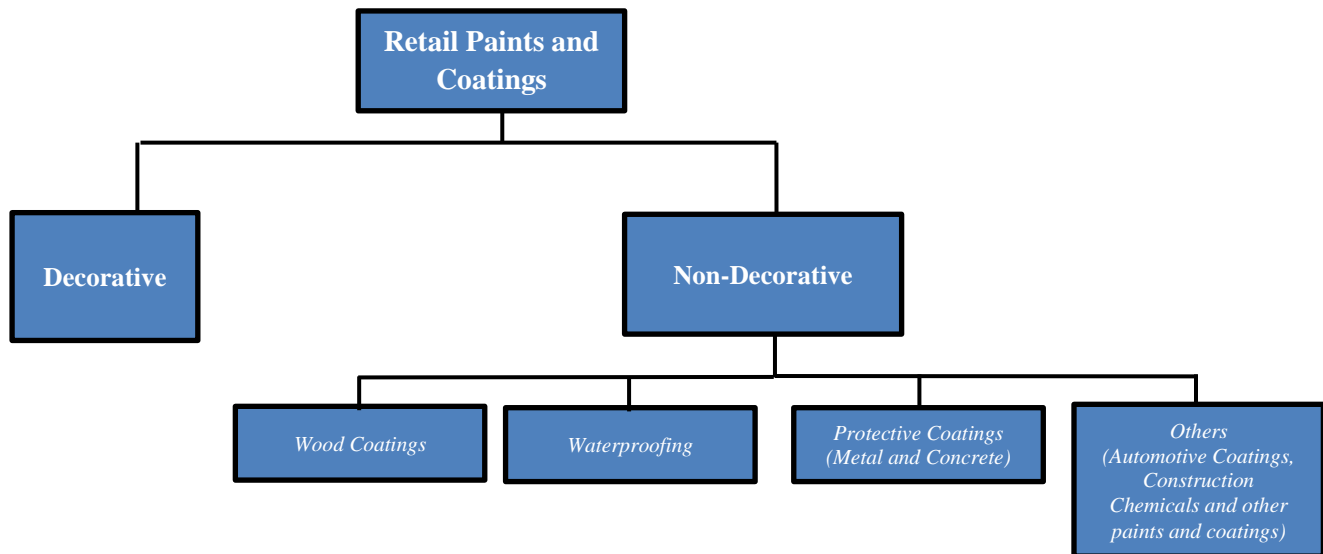
<sup>1</sup> For the purpose of this report, Southeast Asia refers to the following countries – Thailand, Vietnam, Malaysia, Cambodia, Indonesia, Laos and Myanmar.

<sup>2</sup> <http://www.phnompenhpost.com/business/cambodia-joins-global-infrastructure-fund-davos>

### 1.1.2. Industry Segmentation and Definitions

The study focuses on the retail market for decorative paints and coatings in Thailand, Vietnam, Malaysia, Indonesia, Myanmar, Cambodia and Laos; and on the retail market for non-decorative paints and coatings in Thailand and Vietnam.

#### Industry Segmentation, Paint and Coating industry, Select Southeast Asian countries, 2016



Source: Frost & Sullivan

Note: Paints and coatings classified under 'Others': Not included as a part of this study.

The definitions of each category and further sub-categories are described below.

**Retail Paints and Coatings:** This refers to paints and coatings sold through retail dealers which include traditional retail dealers and modern trade distributors.

**Decorative Paints and Coatings:** Otherwise known as architectural coatings, this segment includes all those coatings applied on new and existing buildings, be it residential or commercial or industrial or any other type of building, for decorative purposes.

**Non-Decorative Paints and Coatings:** For the purpose of this study, non-decorative paints and coatings comprise three segments - non-decorative wood coatings, non-decorative waterproofing and non-decorative protective coatings. The categories and their uses are described below.

**Non-Decorative Wood Coatings:** Used for on-site paint jobs of woodwork in small to medium scale projects (mainly housing). Some examples of application areas are doors, window frames, trims, wooden floors, cabinets, etc. This category doesn't include off-site furniture paints and coatings.

**Non-Decorative Waterproofing:** Waterproofing chemicals/membranes that are used for preventing water seepage. These are typically of 4 types –

- Cementitious - cement based
- Liquid applied acrylic, Polyurethane - resin based
- Liquid applied bituminous - bitumen based
- Sheet membrane

**Non-Decorative Protective Coatings (Metal and Concrete):** Also known as heavy duty or high-performance coatings, these coatings are applied on steel structures (construction and small to medium scale industries), steel bridges, piping, and other structures where anti-corrosive coatings or other coatings with high resistance to wear-and-tear are required. Protective coatings have a much thicker film than decorative coatings, typically 3-4mm. Examples: heat resistant coatings for pipes and flares, heavy-duty floor paint for factories, warehouses, or airport hangars, and high-performance coatings for oil rigs and related equipment. These types of coatings are also used for protecting window frames from exposure to oxidization and concrete structures from bacterial, fungal and other kinds of organic infestations.

### **1.1.3. Value Chain and Distribution Chain Analysis**

Paint and coating manufacturers in the selected Southeast Asian countries generally rely on large international chemical manufacturers such as Dow and BASF for the majority of their raw material requirements. Paint and coating manufacturers in countries like Thailand, Indonesia and Malaysia, which have presence of domestic companies that produce petrochemical biproducts required for paint and coating manufacturing, also source some of their raw materials locally. However, countries such as Vietnam, Cambodia, Laos and Myanmar largely rely on imports from the neighbouring countries.

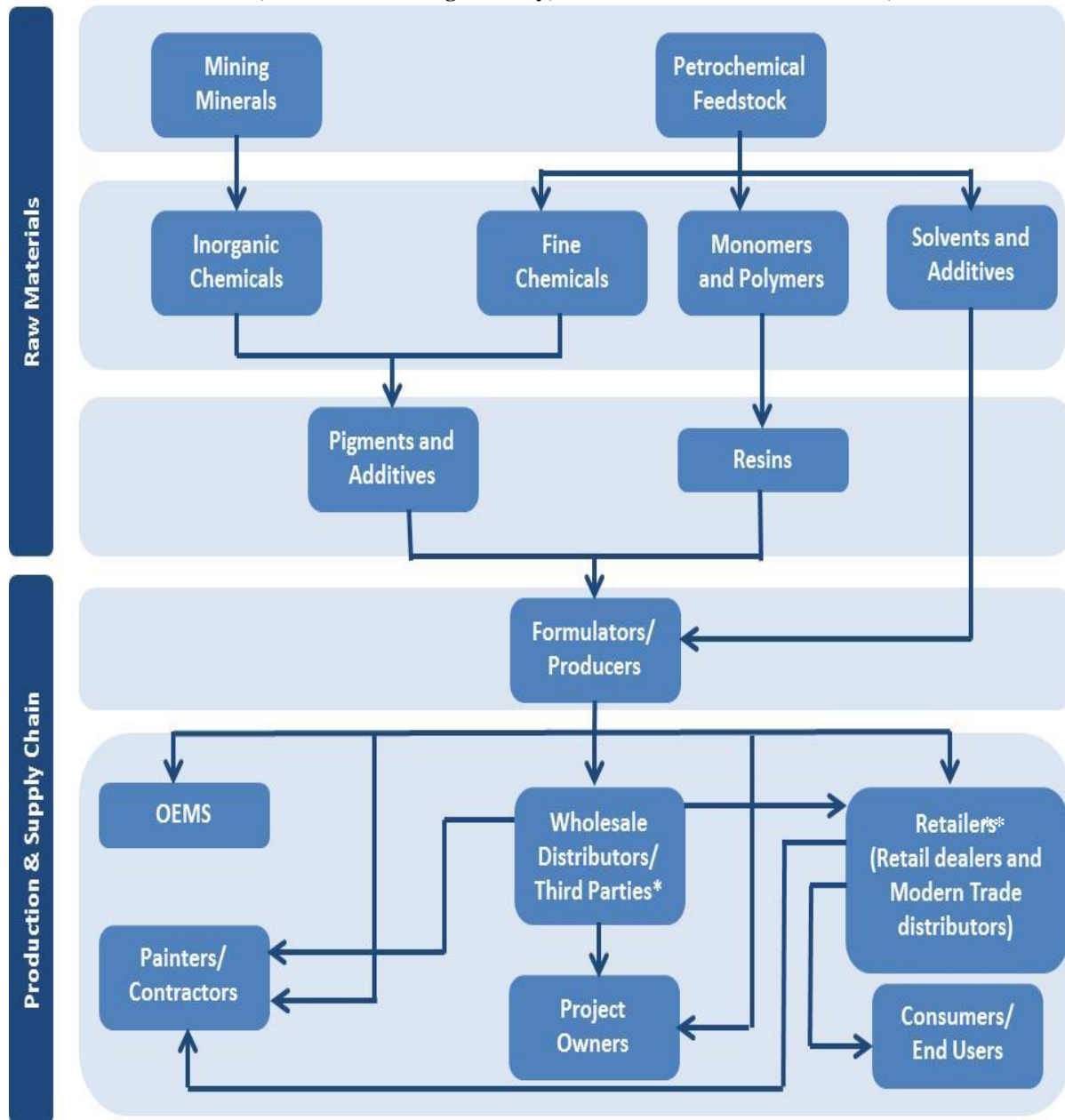
The sales channels in different countries depend on the available infrastructure and maturity of the local market. In countries such as Thailand, Indonesia and Malaysia paint and coating manufacturers sell directly to modern trade distributors as well as to traditional retail dealers, whereas in countries such as Vietnam, Indonesia, Cambodia, Myanmar and Laos, the paint and coating manufacturers sell directly to traditional retail dealers or wholesale distributors who in turn sell to the retail dealers. Most of these sales constitute decorative paints and coatings. Apart from selling to retail dealers, wholesale distributors and modern trade distributors, paint and coating manufacturers also sell their products directly to project owners and contractors.

Housing project owners and infrastructure contractors in Thailand, Malaysia and Indonesia procure decorative paints and coatings directly from the manufacturers, while in Vietnam, Myanmar, Cambodia and Laos wholesale distributors act as third parties between paint and coating manufacturers and project owners.

Non-decorative paints and coatings are sold mostly through non-retail channels in all of the Southeast Asian countries. Majority of non-retail customers include project owners, contractors, OEMs and large scale industries. The retail customers for non-decorative paints and coatings in these countries include real-estate developers, small and medium scale enterprises, small-time painters, architects and individuals.

Presence of large networks of retail dealers in Thailand, Malaysia and Indonesia ensure relatively higher sales of non-decorative paints and coatings through retail channels whereas lack of established sales networks in the other countries results in bulk purchases being done directly through manufacturers and third parties. Lack of DIY activities, which is a result of availability of cheap labour, is also one of the major factors restraining retail sales of non-decorative paints and coatings.

**Value Chain, Paint and Coating industry, Select Southeast Asian countries, 2016**



Source: Frost & Sullivan

Note: \* Wholesale distributors/Third parties are applicable for Vietnam, Indonesia, Cambodia, Myanmar and Laos.

\*\*Sales of Non-Decorative Protective Coatings through Retailers are comparatively less in Vietnam as compared to the other countries in the study.

#### **1.1.4. Market Sizing and Forecasts**

The retail market for decorative paints and coatings in the key countries in Southeast Asia experienced a steady growth historically. The retail decorative paint and coating market in Thailand registered a CAGR of 6.9% between 2011 and 2016, growing from THB13.7 billion in 2011 to THB19.2 billion in 2016, while the market in Vietnam recorded a CAGR of 9.0% between 2011 and 2016, growing from VND4,224.8 billion in 2011 to VND6,500.0 billion in 2016. Similarly, the markets in the other countries of Southeast Asia such as Malaysia, Indonesia, Myanmar, Cambodia and Laos registered a combined CAGR of 6.4% between 2011 and 2016, growing from USD898.1 million in 2011 to USD1,224.0 million in 2016.

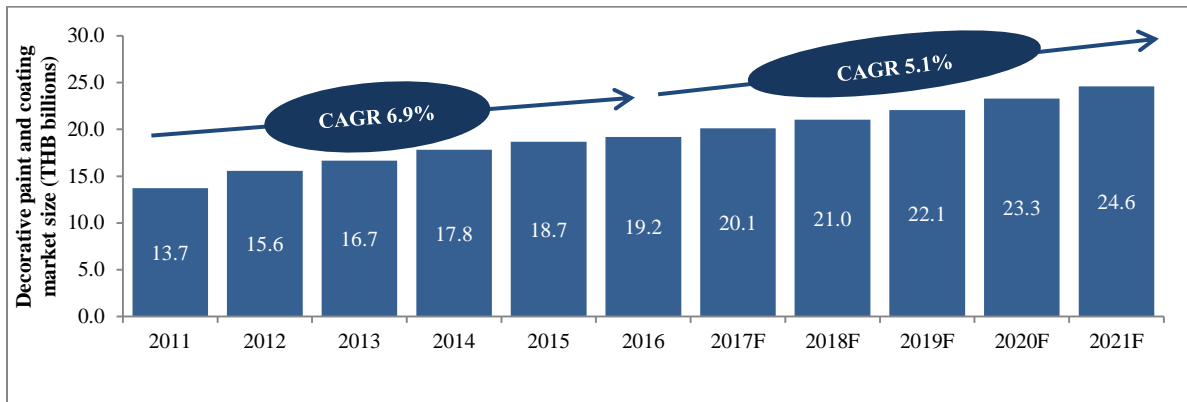
Growth in these markets were driven by urbanization, increase in disposable incomes, new house constructions and repainting activities. Increased consumer preferences towards high priced paints and coatings in countries such as Thailand and Vietnam were also responsible for the historical growth rates. Government housing schemes and affordable-house building programs in Thailand, Indonesia and Malaysia also provided impetus to the market during times of economic slowdown and natural disasters. Other factors such as emergence of services-sectors in Myanmar and increased tourism activities in other Southeast Asian countries such as Thailand, Cambodia and Laos helped the retail market for decorative paints and coatings grow.

In 2016, the retail market for decorative paints and coatings in Thailand was dominated by TOA Paint (Thailand) Public Company Limited which also had a market share of approximately 14.0% in the retail market for decorative paints and coatings in the select SEA countries. Whereas, in 2016, 4 Oranges Co., Ltd, a Vietnam based company was the market leader for retail decorative paints and coatings in Vietnam. Some of the major paint and coating manufacturers in Cambodia, Laos, Myanmar, Malaysia and Indonesia in 2016, were the respective regional subsidiaries of multinational companies such as Nippon Paint Holdings Co., Ltd., Akzo Nobel N.V., TOA Paint (Thailand) Public Company Limited, United Paints Group Co., Ltd. and the Jotun Group.

Frost & Sullivan expects the retail market for decorative paints and coatings in Thailand to register a CAGR of approximately 5.1% between 2016 and 2021, growing from THB19.2 billion in 2016 to THB24.6 billion in 2021. Its counterpart in Vietnam is expected to register a CAGR of 9.9%, growing from VND6,500.0 billion in 2016 to VND10,421.0 billion in 2021. Whereas, the markets in Malaysia, Indonesia, Myanmar, Cambodia and Laos combined are expected to register a CAGR of 7.7%, growing from USD1,224.0 million in 2016 to USD1772.4 million in 2021. Urbanization, construction of new houses and repainting activities are likely to be the major factors driving growth of the market in this region. Growth in Thailand is also likely to be driven by various other factors such as increased retail spending, shortened repainting cycles, preference towards premium paint and coating products, among many others. The market in Vietnam is likely to benefit from the ongoing construction projects in urban areas of the country. Government housing initiatives and demand for better quality housing is also expected to provide impetus to the growth in this market. The retail market for decorative paints and coatings in Malaysia is also likely to reap the benefits of the government's development expenditure plans, while growth in Indonesia is expected to be mainly driven by its' relatively higher population and urbanization trends. On the other hand, the markets in Myanmar, Cambodia and Laos are likely to rely on improvements in overall economy. Paint and coating manufacturers are also expected to boost the growth in these markets by introducing new products and expanding their sales networks.



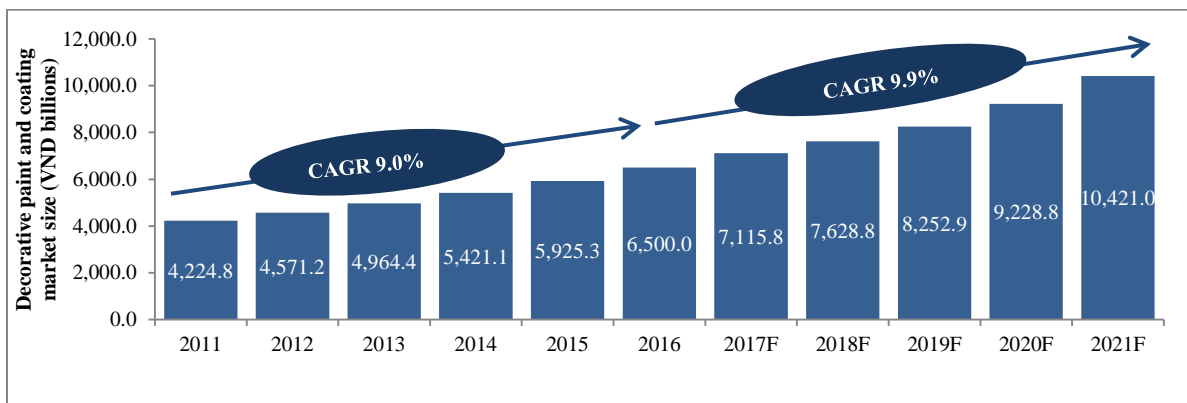
**Retail Market Size of the Decorative Paints and Coatings in Thailand, THB, 2011-2021F**



Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan

Note: All figures are rounded. Base year is 2016.

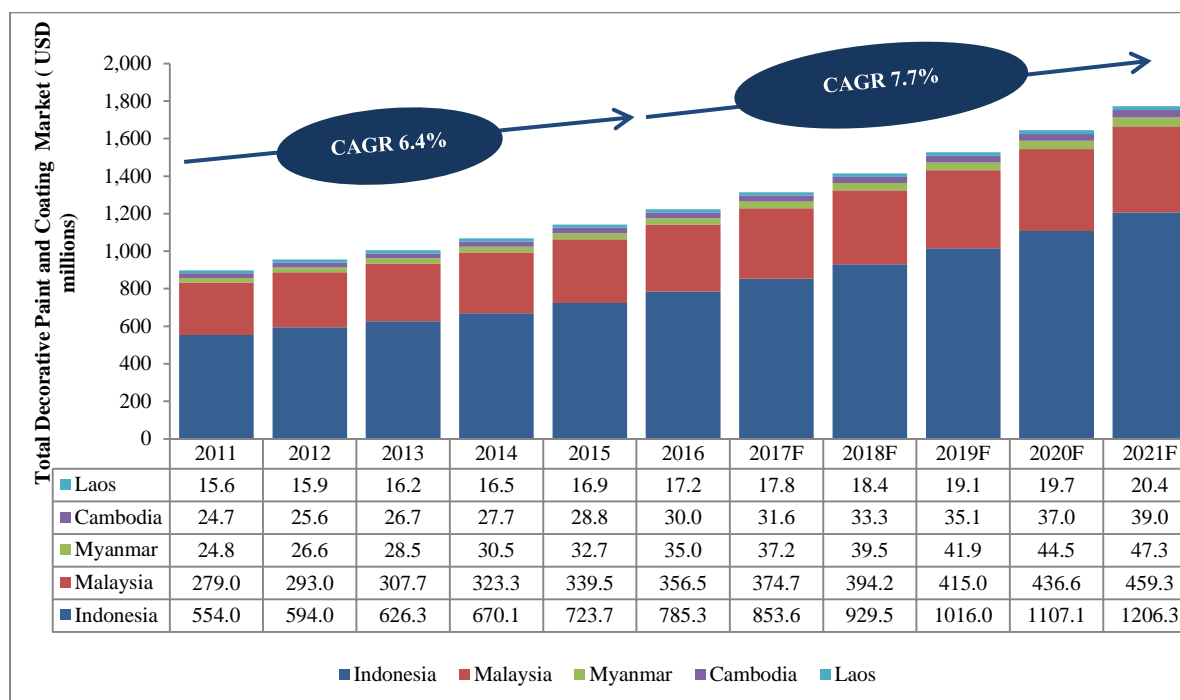
**Retail Market Size of Decorative Paints and Coatings in Vietnam, VND, 2011-2021F**



Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan

Note: All figures are rounded. Base year is 2016

## Retail Market Size of Decorative Paints and Coatings in Indonesia, Malaysia, Myanmar, Cambodia and Laos, USD, 2011-2021F



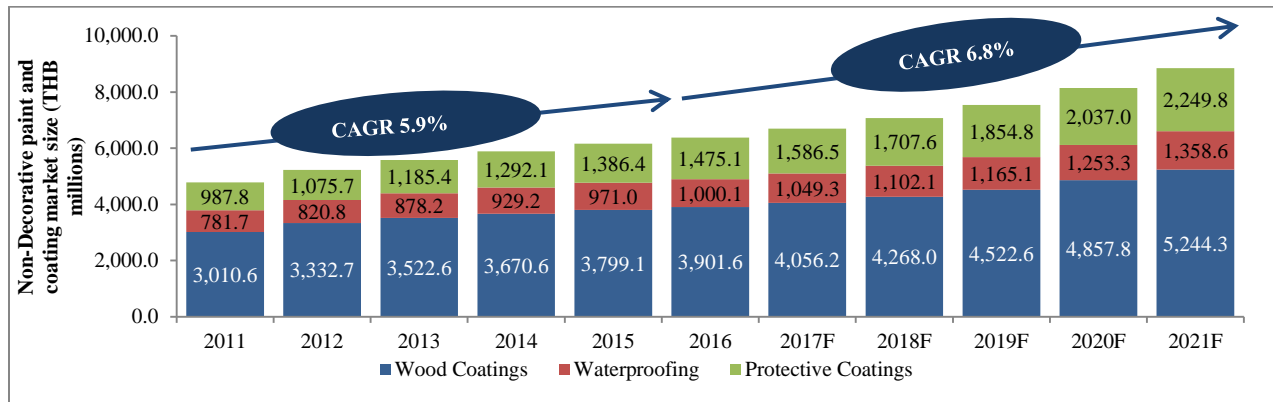
Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan

Note: All figures are rounded. Base year is 2016

The retail market for non-decorative paints and coatings (for wood coatings, waterproofing and protective coatings combined) in Thailand registered a CAGR of approximately 5.9% between 2011 and 2016, growing from THB4,780.0 million in 2011 to THB6,376.9 million in 2016. Similarly, the market in Vietnam also followed a steady growth trajectory, registering a CAGR of 5.7% between 2011 and 2016, growing from VND1,367.3 billion in 2011 to VND1,800.7 billion in 2016. Frost & Sullivan expects increased growth in both these markets in the forecast period, between 2016 and 2021. The retail market for non-decorative paints and coatings in Thailand is expected to register a CAGR of 6.8% between 2016 and 2021, increasing from THB6,376.9 million in 2016 to THB8,852.7 million in 2021, whereas the market in Vietnam is expected to register a CAGR of 7.3%, growing from VND1,800.7 billion in 2016 to VND2,558.2 billion in 2021.

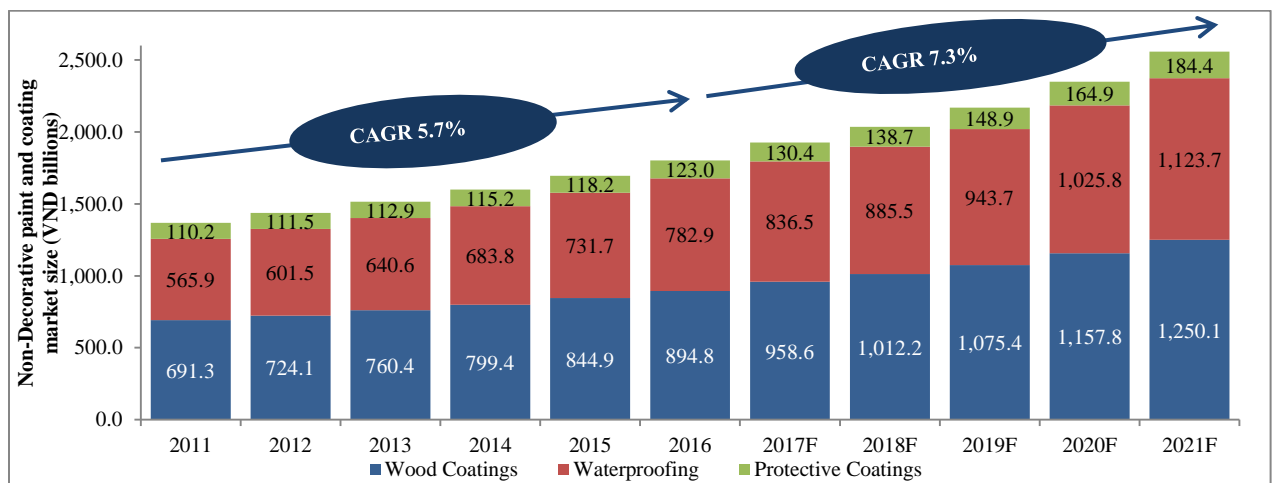
Growth in Thailand is expected to be driven by increased FDI inflow, growth in the number of medium and small scale industries, government spending on transport related infrastructures, increased consumer awareness about protective coatings as well as house repainting and renovating activities. Other factors such as increased renovation and repainting of wooden furniture as a result of declined domestic furniture consumption, shorter renovation cycles, use of cement fiber, growth in tourism and demand for high-end, luxury condominiums are also expected to contribute towards increase in market size. The retail market for non-decorative paints and coatings in Vietnam is likely to benefit from an increase in housing construction activities, increased public investments towards infrastructure projects related to transport and increased wood furniture manufacturing activities supported by its domestic consumption. Since the retail market in Vietnam for non-decorative paints and coatings is not as widespread as compared to Thailand, efforts by various paint and coating manufacturers are also expected to provide stimulus to the growth in the forecast period.

**Retail Market Size of Non-Decorative Paints and Coatings in Thailand, THB, 2011-2021F**



Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan  
 Note: All figures are rounded. Base year is 2016.

**Retail Market Size of Non-Decorative Paints and Coatings in Vietnam, VND, 2011-2021F**



Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan  
 Note: All figures are rounded. Base year is 2016

### 1.1.5. Competitive Landscape

#### Decorative and Non-Decorative Paint and Coating Retail Market Landscape in Thailand and Vietnam, 2016

Country	Parent Company	Headquarters	Domestic Subsidiaries	Segments present	Estimated Retail Market Share, 2016
Thailand	TOA Paint (Thailand) Public Company Limited	Thailand	TOA Paint (Thailand) Public Company Limited	Decorative Paints Wood Coatings Metal Coatings Protective Coatings Waterproofing	Decorative: 48.7% Wood Coatings: 28.2% Waterproofing: 20.0% Protective Coatings: 28.0%
	Akzo Nobel N.V.,	Netherlands	Akzo Nobel Paints (Thailand) Limited	Decorative Paints Metal Coatings Protective Coatings Automotive Paints	Decorative: 13.8% Wood Coatings: NA Waterproofing: NA Protective Coatings: NA
	Beger Co., Ltd.	Thailand	Beger Co., Ltd.	Decorative Paints Wood Coatings Metal Coatings Protective Coatings	Decorative: 13.3% Wood Coatings: 32.8% Waterproofing: NA Protective Coatings: NA
	Jotun	Norway	Jotun Thailand Limited	Decorative Paints Wood Coatings Metal Coatings Protective Coatings Automotive Paints	Decorative: 8.1% Wood Coatings: NA Waterproofing: NA Protective Coatings: 30.0%

	Nippon Paint Holdings Co., Ltd.	Japan	Nippon Paints Thailand Co., Ltd	Decorative Paints Metal Coatings Protective Coatings Automotive Paints	Decorative: 5.2% Wood Coatings: NA Waterproofing: NA Protective Coatings: NA
	Sika AG	Switzerland	Sika (Thailand) Ltd.	Decorative Paints Metal Coatings Protective Coatings Waterproofing	Decorative: NA Wood Coatings: NA Waterproofing: 28.0% Protective Coatings: NA
	ParexGroup (Thailand) Co., Ltd.	Thailand	ParexGroup (Thailand) Co., Ltd.	Metal Coatings Protective Coatings Waterproofing	Decorative: NA Wood Coatings: NA Waterproofing: 10.0% Protective Coatings: NA
Vietnam	4 Oranges Co., Ltd	Vietnam	4 Oranges Co., Ltd	Decorative Paints	Decorative: 23.0% Wood Coatings: NA Waterproofing: NA Protective Coatings: NA
	Akzo Nobel N.V.,	Netherlands	International Paint Singapore Pte Ltd (Vietnam branch)	Decorative Paints Metal Coatings Protective Coatings Wood Coatings Waterproofing	Decorative: 18.0% Wood Coatings: 10.0% Waterproofing: 10.0% Protective Coatings: 40.0%

	TOA Paint (Thailand) Public Company Limited	Thailand	TOA Paint (Vietnam) Co.,Ltd.	Decorative Paints Wood Coatings Metal Coatings Protective Coatings Waterproofing	Decorative: 9.8% Wood Coatings: 8.0% Waterproofing: 6.0% Protective Coatings: NA
	Nippon Paint Holdings Co., Ltd.	Japan	Nippon Paint (Vietnam) Co. Ltd	Decorative Paints Wood Coatings Metal Coatings Protective Coatings Waterproofing	Decorative: 9.0% Wood Coatings: NA Waterproofing: NA Protective Coatings: NA
	Jotun	Norway	Jotun Paints (Vietnam) Co. Ltd.	Decorative Paints Metal Coatings Protective Coatings Waterproofing	Decorative: 8.0% Wood Coatings: NA Waterproofing: 10.0% Protective Coatings: 50.0%
	Oseven Corporation	Vietnam	Oseven Corporation	Wood Coatings	Decorative: NA Wood Coatings: 45.0% Waterproofing: NA Protective Coatings: NA
	Adora Paints (M) Sdn Bhd	Malaysia	Adora Paints (Vietnam) Co., Ltd	Wood Coatings	Decorative: NA Wood Coatings: 15.0% Waterproofing: NA Protective Coatings: NA

	Kova Group Ltd	Vietnam	Kova Group Ltd	Waterproofing	Decorative: NA Wood Coatings: NA Waterproofing: 49.0% Protective Coatings: NA
	Hai Phong Paint Joint Stock Company	Vietnam	Hai Phong Paint Joint Stock Company	Decorative Paints Metal Coatings Protective Coatings	Decorative: NA Wood Coatings: NA Waterproofing: NA Protective Coatings: 5.0%

Source: Frost & Sullivan, primary interviews, desktop research and analysis

### Decorative Paint and Coating Retail Market Landscape in Malaysia, Indonesia, Cambodia, Laos and Myanmar, 2016

Country	Parent Company	Headquarters	Domestic Subsidiaries	Segments present
Malaysia	Nippon Paint Holdings Co., Ltd.	Japan	Nippon Paint (Malaysia) Sdn. Bhd. Nippon Paint (Sabah) Sdn. Bhd. Paint Marketing Company (Malaysia) Sdn. Bhd.	Decorative Paints Wood Coatings Metal Coatings Protective Coatings Automotive Paints Waterproofing

	Akzo Nobel N.V.,	Netherlands	Akzo Nobel Paints (Malaysia) Sdn. Bhd.  DGL International (Malaysia) Sdn Bhd	Decorative paints Automotive paints Metal coatings Marine coatings Protective coatings Waterproofing Wood Coatings
	Jotun	Norway	Jotun (Malaysia) Sdn. Bhd.  Jotun Paints Sdn. Bhd., Nilai - (sales and production)	Decorative Paints Marine Coatings Protective Paints Metal Coatings Powder Coatings Wood Coatings
Indonesia	Nippon Paint Holdings Co., Ltd.	Japan	PT Nipsea Paint and Chemicals  Nippon Paint PT. NP Auto Refinishes	Decorative Paints Wood Coatings Metal Coatings Protective Coatings Automotive Paints Waterproofing
	PT. Avia Avian	Indonesia	---	Decorative paints Wood coatings Metal coatings Automotive paints
	Akzo Nobel N.V.,	Netherlands	PT ICI Paints Indonesia	Decorative paints Automotive paints Metal coatings Marine coatings Protective coatings Waterproofing Wood Coatings
Myanmar	United Paints Group Co., Ltd.	Myanmar	---	Decorative paints Architecture paints Wood coatings Marine paints Industrial paints Protective coatings
	Akzo Nobel N.V.,	Netherlands	Akzo Nobel Co.,Ltd. (Yangon)	Decorative paints Automotive paints Protective coatings Waterproofing Wood Coatings
	TOA Paint (Thailand) Co., Ltd	Thailand	TOA Paint (Myanmar) Co. Ltd	Decorative Wood paint Protective Coatings Waterproofing
Cambodia	United Paints Group Co., Ltd.	Myanmar	---	Decorative paints Architecture paints Wood coatings Industrial paints Protective coatings



	Jotun	Norway	Jotun (Cambodia) Ltd., Phnom Penh (Sales)	Decorative Paints Protective Paints Metal Coatings Powder Coatings Wood Coatings
	Akzo Nobel N.V.,	Netherlands	---	Decorative paints Metal coatings Marine coatings Protective coatings Waterproofing Wood Coatings
Laos	United Paints Group Co., Ltd.	Myanmar	---	Decorative paints Architecture paints Wood coatings Marine paints Industrial paints Protective coatings
	Jotun	Norway	---	Decorative Paints Marine Coatings Protective Paints Metal Coatings Powder Coatings Wood Coatings
	Beger Co., Ltd.	Thailand	---	Decorative paints Wood coatings Construction Chemicals Heavy Duty Coating Special Paints

Source: Frost & Sullivan, primary interviews, desktop research and analysis

#### 1.1.6. Industry Outlook

The growth of paint and coating industries in select Southeast Asian countries are subject to a variety of factors such as urbanization, new constructions, repainting, purchasing power, retail spending, government initiative towards housing, government expenditure towards infrastructure, tourism, change in consumer preferences and many others. Government incentives in the housing market bode well for both the decorative and non-decorative paint and coating markets. In relatively developed countries such as Thailand, Malaysia and Indonesia repainting activities are expected to be the major growth drivers for the paint and coating industry. Long term government plans which would focus expenditures on housing, infrastructure and industries are also likely to spur the growth. Apart from that, a gradual shift in consumer preferences towards better quality paint and coating products, which is a result of both introduction of premium products into the market by multinational paint companies and digitization of buying processes, presents better growth prospects for the industry. In Thailand, the retail paint and coating industry which is a significant channel of sales for the manufacturers is likely to see increased off-take as consumers become more aware of the choices offered to them. This segment is also expected to see moderate to high-growth in the forecast period, driven by an increased demand for new housing and repainting, government incentives and rising retail spending to name a few. Large manufacturers with expansive retail dealer reach are likely to be better equipped to capture changing consumer preferences and translate them into product features thereby enabling them to stay current in changing times. This in-turn is expected to give them an edge over other manufacturers who may not have the ability to innovate and adapt. On the other hand, the non-decorative retail segment, in particular, is likely to be benefitted by a continued increase in tourism resulting in new demand and constant interior-upkeeps by the hospitality sector in the country.

Growth in the retail paints and coatings in Vietnam post 2017 is likely to be driven by large housing construction projects in urban areas of the country. Increase in the number of foreign developers in this sector and rising income levels of the population are gradually increasing demand for better quality housing. This in turn is expected to boost the sales of decorative paints and coatings and shift consumer preferences towards premium category products. Growing awareness among customers about the origins of products, safety of ingredients, and their environmental friendliness is also likely to influence the paint and coating industry in Vietnam. Companies that are able to cater to the evolving tastes and preferences of retail and B2B consumers are likely to reap significant benefits in the forecast period.

The outlook for the decorative paint and coating market in Malaysia is expected to remain fairly positive, driven by the change in consumer demands with high standard of living and rapid development of commercial and residential buildings supported by the significant increases in development expenditure (approximately 16.2% increase from previous plan) in the 11th Malaysia Plan (2016-2020). Growth in the Indonesian decorative paint and coating market is expected to continue on its upward trajectory owing to the rapid infrastructure developments, increased FDI and increased tourism, coupled with establishment of economic development zones. With the opening up of Myanmar, Laos and Cambodia's economies in recent years and the expected construction boom that is likely to be a result of this liberalization, the near-term (2016-2018) outlook for the paint and coating markets in these countries is expected to be positive.

In conclusion, a combination of aforementioned factors is expected to drive the growth in the retail market for paints and coatings in selected countries in SEA in the forecast period 2016-2021.

**The rest of the page is intentionally left blank**

## 2. THE PAINT AND COATING INDUSTRY IN THAILAND

### 2.1.1. Brief Economic Overview of Thailand

Thailand is the second largest economy in ASEAN in terms of GDP, accounting for approximately 16.2% of ASEAN's<sup>3</sup> total GDP in 2015<sup>4</sup>. Thailand is widely cited as a model of economic and social developmental success, transforming into an upper middle-income<sup>5</sup> economy in 2011. Thailand's Gross Domestic Product (Nominal GDP) grew at a CAGR of approximately 14.8% between 1986 and 1996 on the back of political stability, economic liberalization, and strong domestic consumption. In the years following the Asian financial crisis of 1997-1998, nominal GDP moderated to an average of approximately 8.0%, between 1999 and 2005. Despite a series of economic shocks post-2006 including periods of political instability and devastating floods, strong macroeconomic fundamentals have enabled Thailand's economy to remain resilient. Thailand's nominal GDP grew at a CAGR of approximately 5.9% during the period 2005 to 2015. Accounting for inflation (highest of 5.4% in 2008), real GDP CAGR was approximately 3.3% during the same period. Over this period, a large number of jobs were created in the country drastically reducing poverty levels from approximately 67.0% in 1986 to just 10.9% in 2016.

Rapid economic progress has fueled Thailand's transition from an agrarian to an industrial (including manufacturing) and services-based economy. The industrial sector dominated the economy between 2011 and 2016 contributing to approximately 38.0% to 40.0% of GDP, followed by the services sector which contributed approximately 25.0% to 27.0%. Traditional sectors such as agriculture played a smaller role in the economy, contributing approximately 8.0% to 10.0% of the GDP. The focus on manufacturing led by automotive, electronics, and consumer goods segments present significant growth prospects for the paint and coating industry since many of these industries require the use of paints and coatings (especially non-decorative). The country is also a major hub for agro-based industries. These industries would also generate demand for non-decorative paints and coatings.

Apart from promoting industrial growth, Thailand also maintains friendly relations with neighboring countries and has about 22 free trade agreements with countries such as China, India, Japan, Australia and New Zealand among others, boosting the nation's trade activity in both domestic and international markets. In 2016, the World Bank Doing Business indicator ranked the country as fourth in the East Asia and Pacific Region<sup>6</sup> and 46<sup>th</sup> worldwide in terms of Ease of Doing Business<sup>7</sup> above other Asian countries in the region such as the Philippines, Indonesia and China. On an average, the country attracted investments of approximately USD9.7<sup>8</sup> billion per year in net Foreign Direct Investments (FDI) between 2010 and 2016. To stimulate further economic activity and achieve the status of a developed economy from a currently developing economy status, the government of Thailand has embarked on a 20-year strategic plan to be executed during the period of 2017 to 2037, with the support of the World Bank, incorporating broad-based reforms that seek to address economic stability, human capital development, business competitiveness, government bureaucracy, infrastructure improvements, and environmental sustainability.

---

<sup>3</sup> ASEAN includes Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam

<sup>4</sup> International Monetary Fund (IMF), World Economic Outlook, October 2016 revision

<sup>5</sup> Economies with a GNI per capita between \$4,036 and \$12,475 are defined as upper middle-income economies, World Bank

<sup>6</sup> This refers to 25 countries in the East Asia and Pacific region including the likes of China, Singapore, Malaysia, Indonesia, Philippines, Thailand, Vietnam, Cambodia, Hong Kong and other smaller nations

<sup>7</sup> <http://www.doingbusiness.org/rankings>

<sup>8</sup> The Board of Investment of Thailand

## **2.1.2. Macro-Economic Overview of Thailand**

### **GDP and GDP Growth Rates**

During the early phase of this decade, the country achieved GDP growth rates of approximately 9.3% and 4.5% in 2012 and 2013, respectively. Weak GDP growth rates of approximately 1.8% and 3.1% in 2014 and 2015 following the years of higher growth can be attributed to several factors. These include a fall in the prices of commodities (e.g., rice, sugar, rubber and oil), slowdown in global trade; decrease in state spending; decline in foreign direct investment (FDI); fall in demand from a major export market; failure of the first car policy (the government's short-term economic stimulus policy) costing the Thai government approximately THB2.1 billion; and volatile political situation arising from protests starting during the end of 2013 until mid-2014 followed by the Thai military coup in the same year, amongst others. Despite such setbacks, GDP grew at a CAGR of approximately 4.5% between 2011 and 2016, growing from approximately THB11,300.5 billion in 2011 to approximately THB14,105.5 billion in 2016.

Thailand's year-on-year (YOY) GDP growth declined to 4.6% in 2011 from 11.9% in 2010 as a result of natural disasters both inside and outside the country adversely impacting economic growth. The tsunami that hit Japan, one of Thailand's major trading partners, following the strong Tohoku earthquake in March 2011, disrupted the supply chains of several Japanese-owned manufacturers operating in Thailand. During the second half of 2011, severe flooding hit Thailand causing losses of approximately THB400.0 billion. Subsequently the Ministry of Commerce Thailand reported a contraction in shipment volumes by 15.5% in the last quarter of 2011 as many industrial estates halted operations during the floods. The industrial production index also fell by 35.8% as compared to 2010. In 2012, GDP growth bounced back to 9.3% driven by a 10.3% increase in public spending, 8.3% rise in household consumption, and 15.5% increase in overall investments. However, owing to the overall social unrest in the country in 2013, both household consumption and public spending registered slow growth rates of 1.9% and 5.5% in comparison to 2012. Protests and strikes resulting from political and social unrests also resulted in low industrial capacity utilizations reducing output in the manufacturing sector (declined by 10.6% YOY as of November 2013). Given the overall economic scenario in 2013, the GDP growth rate decreased to 4.5%. GDP growth further declined to 1.8% in 2014 as a result various internal and external factors. Social unrest during the early months of 2014 followed by military intervention negatively impacted the flow of foreign investments into the country (FDI fell by approximately 10.0% as compared to 2013). State spending decreased while the tourism sector reported a significant setback. Decrease in demand from one of the major export markets, China, and the fall in global commodity prices, especially rubber, also contributed to the slowdown in growth. However, indications for a positive outlook emerged in the later months of 2014 resulting from moderate inflation levels throughout (an indirect result of falling oil prices), rise in the consumer confidence index, and speculation in the market that the Bank of Thailand (BoT) would cut down key interest rates in 2015 to boost consumer spending in the country. The Board of Investment (BoI) Thailand also registered an increase in the number of new project applications in late 2014, indicating strengthening investor sentiment in the country.

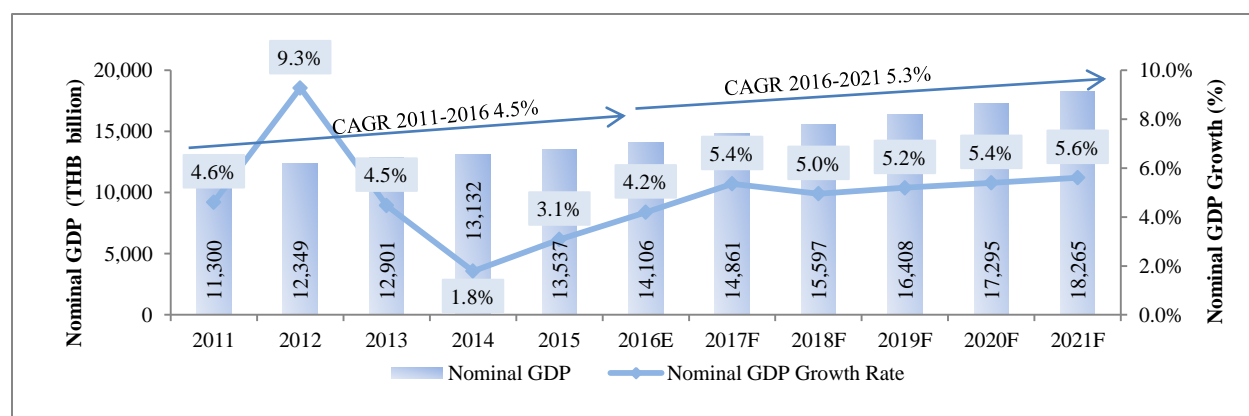
In 2015, Thailand's GDP growth rate increased significantly, from 1.8% in 2014 to 3.1%. Government stimulus package programs towards industrial growth and public welfare schemes resulting in increased factory production and higher levels of public spending (government final consumption expenditure increased by 4.4% between 2014 and 2015), respectively, helped spur growth. However, a cautious outlook prevailed over the general economic conditions resulting from the droughts caused by El-Nino, decrease in rice production, fall in oil and other commodity prices, weaker demand from export markets in Asia and sluggish household spending (household final consumption expenditure fell by 6.7% between 2014 and 2015) as well as lagging consumer confidence index over the later months of the year. All these resulted in negative inflation in 2015. However, the announcement by the government to reduce corporate taxes permanently to 20.0% and decrease real estate transfer tax from 2.0% to 0.01% has boosted sentiments in various industries such as automotive, technology, and construction.

In 2016, the passing of Thailand's monarch after a 70-year reign added to political and economic uncertainties in the country. However, the expected recovery of private consumption from negative growth of 6.7% in 2015 to a positive growth of 2.7% in 2016, growth in public investment by 9.5%, and the return of inflation to positive territory of 0.3% after key interest rates held steady at 1.5%, are forecast to boost the GDP growth rate to 4.2% in 2016 compared to 3.1% in 2015. Public investment in large infrastructure projects, growth in the agriculture sector and higher tourist arrivals (13.1% rise compared to 2015) continue to stimulate the economy. Global geopolitical shifts such as Brexit, the change in the US administration followed by its' subsequent withdrawal from the Trans-Pacific Partnership (TPP), and economic uncertainties prevailing in emerging markets in Southeast Asia could heighten economic volatility. However, improvements in private consumption, public investments in infrastructure, consumer confidence, and government stimulus in various sectors, steady interest rates, and increased tourism activities are set to position Thailand on a growth path toward improved economic performance during the forecast period of 2016 to 2021. Furthermore, the International Monetary Fund (IMF) expects the GDP of Thailand to grow at CAGR of approximately 5.3% between 2016 and 2021, increasing from approximately THB14,105.5 billion in 2016 to approximately THB18,264.9 billion by 2021.

The expected near term YOY growth rates of approximately 5.4% in 2017, approximately 5.0% in 2018 and the overall CAGR of 5.3% between 2016 and 2021 are likely to be driven by several aspects, among others, as outlined below:

- Greater private consumption (2.9% in 2017 in comparison to 2.7% in 2016);
- Increased public investments (10.1% in 2017 in comparison to 9.5% in 2016);
- Expected rise in inflation (1.6% in 2017 in comparison to 0.3% in 2016) due to escalating global oil prices and stable interest rates, rise in rubber prices (grown by approximately 27.0% of Thai farmers of all major crops) and fruit prices (produced by approximately 10.0% of Thai farmers of all major crops);
- Income tax reductions coming into effect in 2017 that could boost the purchasing power of the population by approximately THB33.8 billion in 2017;
- Possibility of general elections in late 2018<sup>9</sup>; and
- Higher tourist arrivals (10.0% increase forecast in visitors in 2017 in comparison to 2016).

**Nominal GDP and Nominal GDP Growth Rates, THB, Thailand, 2011-2021F**



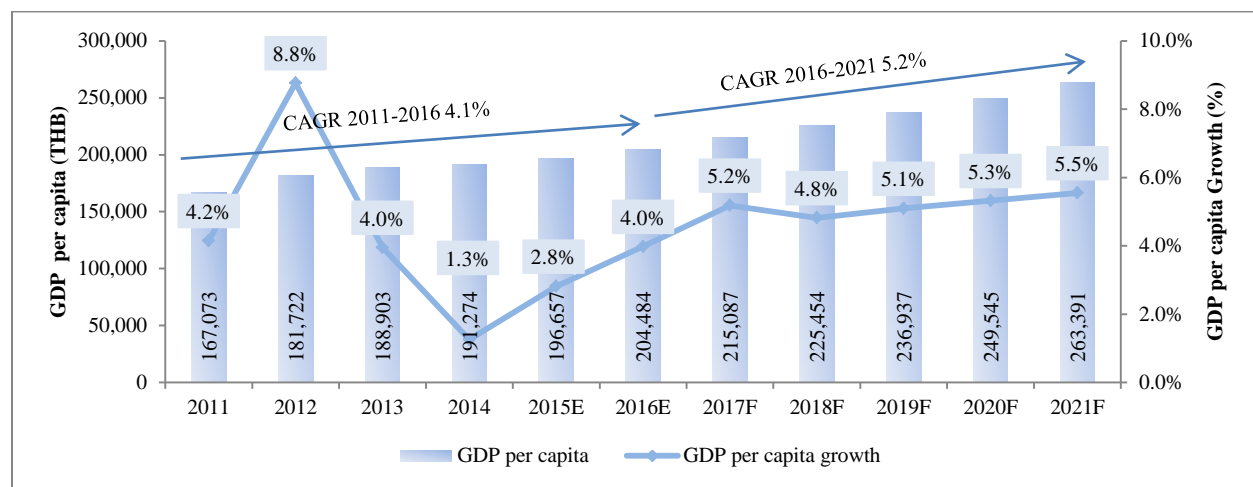
Source: IMF, World Economic Outlook Report, October 2016, compiled by Frost & Sullivan  
Note: All figures are rounded. Base year is 2015.

<sup>9</sup> <http://thediplomat.com/2017/02/why-is-thailand-delaying-elections-until-2018/>

## **GDP Per Capita**

As an indicator of a country's economic performance and standard of living, GDP per capita takes into account the value of all the goods and services produced in the country per person. Growth in GDP per capita also tends to reflect an overall increase in incomes and spending power. GDP per capita increased by 13.1% between 2011 and 2013, from THB167,073.0 in 2011 to THB188,902.9 in 2013. However, the YOY growth moderated to approximately 1.3% after 2013 resulting in a GDP per capita of THB191,274.4 in 2014. As the economy stabilized post the political unrest in 2014, the YOY GDP per capita growth rate in Thailand gradually increased to 2.8% and 4.0% in 2015 and 2016, respectively, achieving a robust CAGR of approximately 4.1% over the period of 2011 to 2016. Against the backdrop of heightened economic activities<sup>10</sup>, the International Monetary Fund expects GDP per capita between 2016 and 2021 to record a CAGR of approximately 5.2% between 2016 and 2021, increasing from THB204,483.7 in 2016 to THB263,391.3 by 2021. This is likely to serve as an impetus to the paint and coating industry as people with higher incomes are more inclined to invest and maintain real-estate assets.

**Per Capita GDP and Per Capita GDP Growth Rates, (Nominal GDP), THB, Thailand, 2011-2021F**



Source: World Economic Outlook Report, October 2016, compiled by Frost & Sullivan

Note: All figures are rounded. Base year is 2014 (Population actuals is 2014 while GDP actuals is 2015).

**The rest of the page is intentionally left blank**

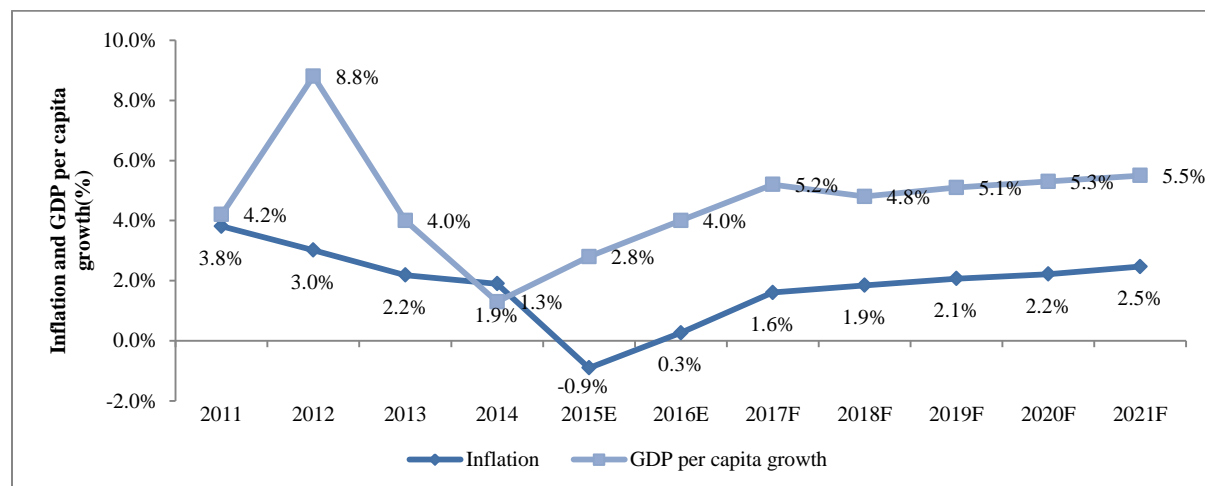
<sup>10</sup> Faster GDP growth vis a vis population growth

## Inflation

Inflation measures the percentage changes in the Consumer Price Index (CPI) and is a key indicator of the overall prices of goods and services in a country. In Thailand, the CPI represents changes in the prices of a basket of 427 goods and services purchased by consumers. The Bureau of Trade and Economic Indices under the Ministry of Commerce collects, summarizes, and reports CPI data on a monthly basis. Inflation rates declined from 3.8% in 2011 to approximately a negative 0.9% in 2015 especially due to the steep decline in global crude oil prices<sup>11</sup> from approximately USD100.0/barrel in 2013 to approximately USD38.0/barrel by 2015, triggering negative inflation<sup>12</sup> in the short-term. However, the Bureau of Trade and Economic Indices, Thailand measured the rate of YOY inflation at a nominal value of approximately 0.2% in 2016 (estimates by IMF were at 0.3% in 2016). Inflation figures for January and February 2017 are estimated at approximately 1.5% and 1.4% respectively.

The IMF expects Thailand to continue on a path of sustained inflation from 2016 to 2021, along with continuous increase in nominal GDP growth rates, anticipating it to increase from approximately 1.6% in 2017 to approximately 2.5% by 2021, below the forecast GDP CAGR of 5.3% over the same period. However, the Bank of Thailand's medium-term inflation target for 2017 is between 1.0% and 4.0%<sup>13</sup>. An excess of growth in GDP per capita over inflation is indicative of a higher disposable income which in turn, is expected to increase buyer sentiments toward high-value purchases including housing. An increase in housing driven on the backdrop of strong economic conditions is likely to fuel demand for paints and coatings in the forecast period.

**Inflation, Thailand, 2011-2021F**



Source: IMF, World Economic Outlook Report, October 2016 and Bureau of Trade and Economic Indices, Ministry of Commerce, Thailand; compiled by Frost & Sullivan

Note: All figures are rounded. Base year is 2015 (Population actuals is 2014 while GDP and inflation actuals are 2015).

<sup>11</sup> This refers to West Texas Intermediate (WTI or NYMEX) crude oil prices per barrel

<sup>12</sup> <https://www.wsj.com/articles/thai-consumer-prices-end-2015-in-negative-zone-1451882290>

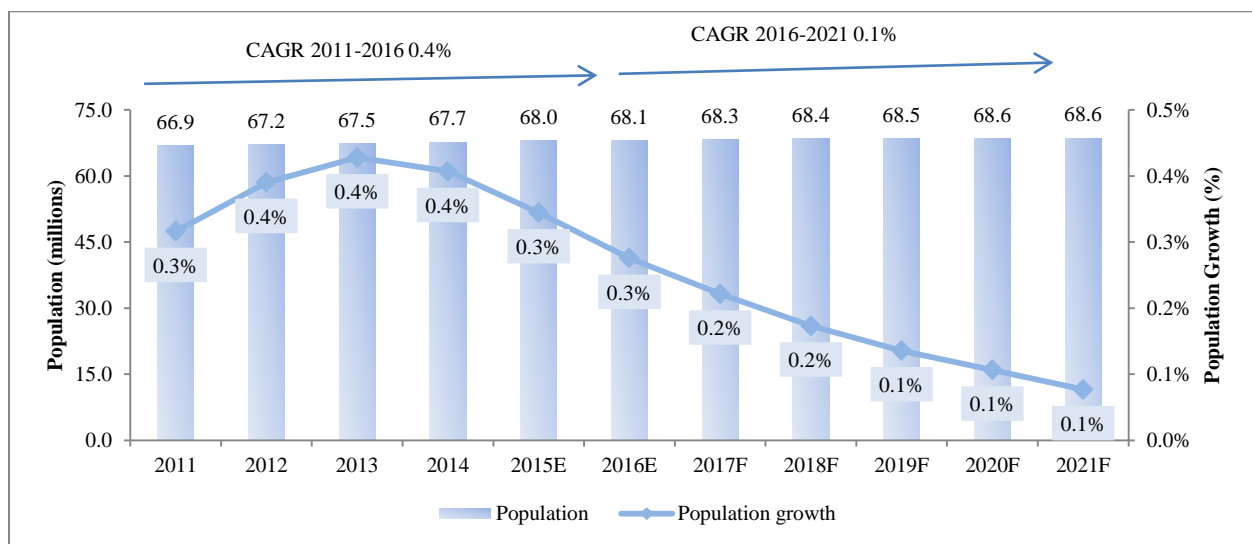
<sup>13</sup> <http://www.bangkokpost.com/business/finance/1216145/local-stocks-charmed-by-dovish-fed>

### 2.1.3. Socio-Economic Overview of Thailand

#### **Population Growth**

With YOY growth rates as low as approximately 0.3% between 2011 and 2015, Thailand's population was range-bound between approximately 66.0 million and 68.0 million people. Over this period, the total population of the country grew from 66.9 million people in 2011 to 68.0 million in 2015. The population was estimated to increase to 68.1 million in 2016<sup>14</sup>, resulting in a modest CAGR of 0.4% from 2011 to 2016. Also, between 2010 and 2015, working age<sup>15</sup> group population as a percentage of total population increased from 64.8% in 2010 to 65.3% in 2015<sup>16</sup>. According to the United Nation's World Population Prospects, the population of Thailand is forecast to increase to 68.6 million by 2021 from 68.1 million in 2016, signifying a CAGR of only 0.1%, less than half the rate achieved from 2011 to 2016.

**Population and Population Growth Rates, Thailand, 2011-2021F**



Source: UN, World Population Prospects, 2015 revision, compiled by Frost & Sullivan  
 Note: All figures are rounded. Base year is 2014.

**The rest of the page is intentionally left blank**

<sup>14</sup> Actual numbers were not available at the time of this report, March 2017

<sup>15</sup> Defined as population between 20 years and 64 years

<sup>16</sup> World Population Prospects, United Nations



### **Human Development Indicators**

Various indices reveal the economic development and welfare of a country's population. Thailand fares well in the Human Development Index<sup>17</sup> (HDI), a summary measure for assessing long-term progress in three aspects of human development, healthy life, access to knowledge, and a decent standard of living. In 2014, the HDI value in Thailand was measured at 0.726 (HDI was at 0.502 in 1980) which was better than countries such as Indonesia, the Philippines and Vietnam which had HDI values of 0.684, 0.668 and 0.666, respectively in the same year. A major contributor to this growth is the GNI<sup>18</sup> of the country, which increased by 277.4% from 1980 to 2014. Multidimensional Poverty Index<sup>19</sup> (MPI), which identifies multiple deprivations within the same households in terms of education, health, and living standards. Thailand stood at 0.004, rating ahead of neighbors such as the Philippines and Vietnam, which scored 0.033 and 0.026 MPI rates respectively. A combination of the aforementioned socio-economic factors is indicative of better standards of living in Thailand compared to neighboring countries. The paint and coating industry, in turn is expected to reap the benefits of better living standards in the forecast period of 2016 to 2021 as the latter is linked directly to consumer expenditure.

**The rest of the page is intentionally left blank**

---

<sup>17</sup> The Human Development Index (HDI) is a summary measure of human development. It measures the average achievements in a country in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living. HDI values fall between 0 and 1 with higher values indicating at better development

<sup>18</sup> Gross national income (GNI) is defined as the sum of value added by all producers who are residents in a nation, plus any product taxes (minus subsidies) not included in output, plus income received from abroad such as employee compensation and property income

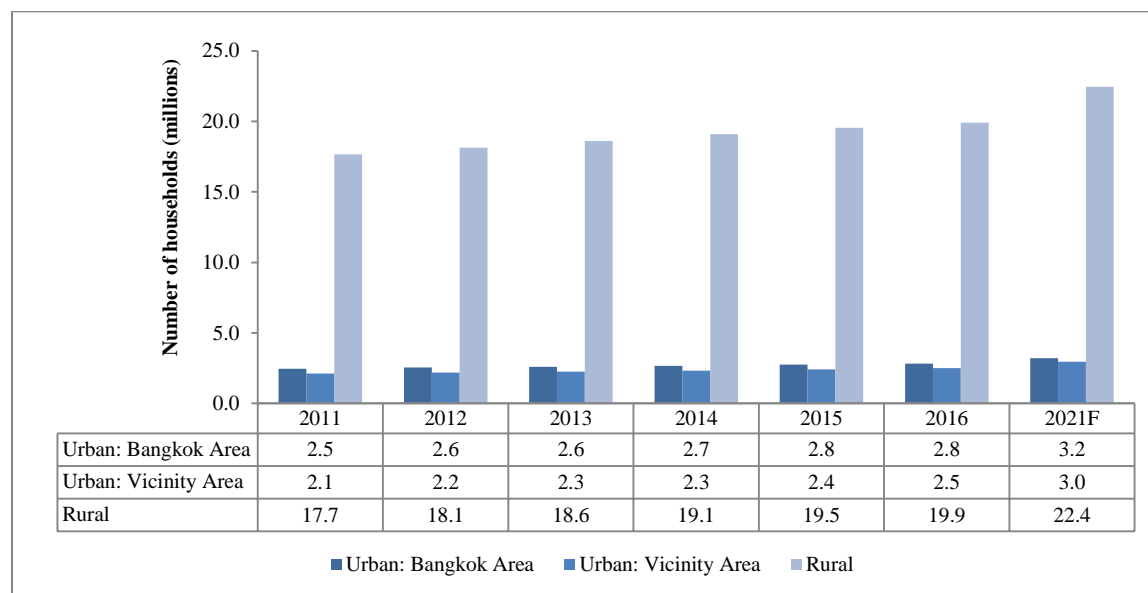
<sup>19</sup> MPI complements monetary measures of poverty by considering overlapping deprivations suffered by individuals at the same time. The index identifies deprivations across the same three dimensions as the HDI and shows the number of people who are multi-dimensionally poor (suffering deprivations in 33% or more of the weighted indicators) and the number of weighted deprivations with which poor households typically contend with. A typical MPI value falls between 0 and 1 where higher values indicate at less prevalence of poverty

## Household Characteristics

### Distribution of households based on region (Urban vs Rural)

Majority of Thailand's population resides in the rural rice-growing areas of northern, northeastern, and central regions, while the urban population is concentrated primarily in the greater Bangkok region<sup>20</sup>. The number of urban households (including both Bangkok and vicinity areas) increased from 4.6 million in 2011 to 5.3 million in 2016 registering a CAGR of 3.1% between 2011 and 2016. Over the same five-year period, the number of rural households increased from 17.7 million in 2011 to 19.9 million in 2016 recording a marginally lesser CAGR of 2.4% between 2011 and 2016. Frost & Sullivan expects the number of rural and urban households to reach 6.2 million and 22.4 million by 2021, respectively. Increase in the number of urban households holds growth prospects for the retail market of decorative paints and coatings in Thailand owing to the fact that the urban population earns more than their rural counterpart and are likely to spend more on home improvements, whereas growth in the number of rural households coupled with the narrowing income gap between urban and rural households is indicative of a potential market for decorative paints and coatings in the forecast period.

**Distribution of Households based on regions, Thailand, 2011-2016 and 2021F**



Source: Official Statistics Registration Systems, Department of Provincial Administration, Ministry of Interior, Thailand, compiled by Frost & Sullivan

Note: Forecasts by Frost & Sullivan

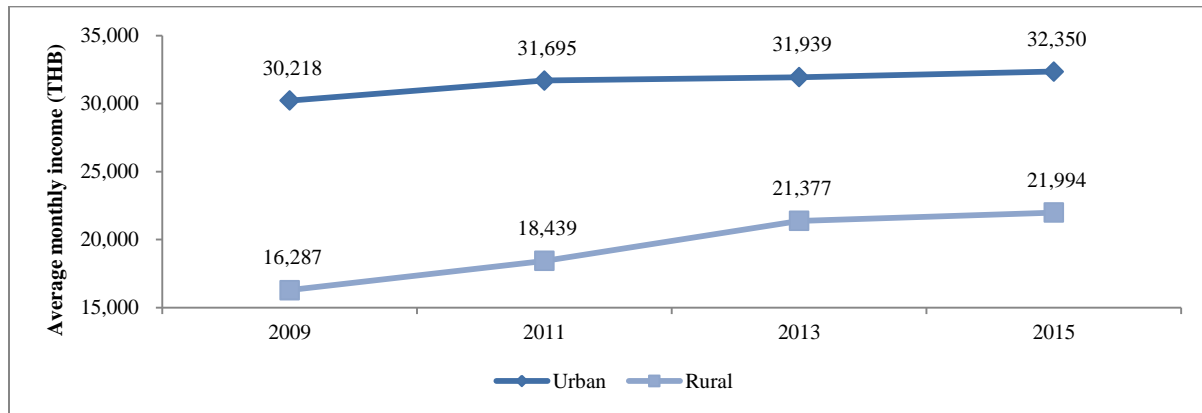
**The rest of the page is intentionally left blank**

<sup>20</sup> Referred to as Bangkok and vicinity areas of Nonthaburi, Samut Prakan, Pathum Thani, Samut Sakhon and Nakorn Pathom

## Household income

The average monthly household income for urban areas in Thailand increased by a CAGR of approximately 1.1%, from THB30,218.0 in 2009 to THB32,350.0 in 2015 vis-a-vis a CAGR of approximately 5.1% for rural areas over the same period, from THB16,287.0 in 2009 to THB21,994.0 in 2015. Higher growth of average monthly income in rural households was driven by the growth in exports of vegetables (registered CAGR of 13.3% between 2009 and 2015) internationally. The narrowing gap between rural and urban incomes suggest possible improvements in living standards in rural areas. Additionally, the rising average incomes in both types of households is also indicative of an increased ability to spend on household improvements including repainting jobs.

**Household Average Monthly Incomes, 2009-2015**



Source: National Statistics Office, Thailand, compiled by Frost & Sullivan

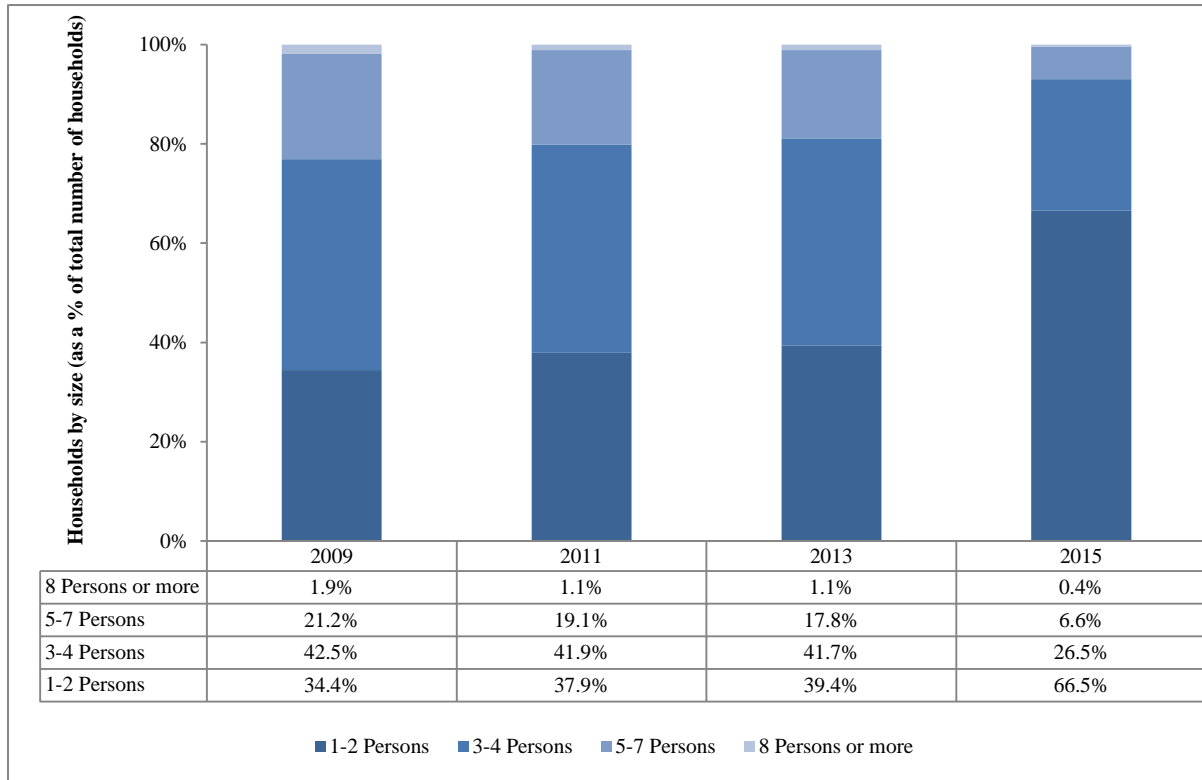
Note: All figures are rounded.

**The rest of the page is intentionally left blank**

## Household Sizes

Household sizes have decreased in 2015 in comparison to 2009. In 2009, a significant portion households in Thailand (42.5%) consisted of 3 to 4 persons in 2009. Nuclear households (those consisting of 1-2 persons) accounted for 34.4% of the total number of households, followed by households composed of 5-7 persons which made up 21.2%. However, between 2013 and 2015, nuclear households recorded a steep rise to 66.5% in 2015, from 39.4% in 2013 driven by moderated GDP growth rates and decreased inflation which resulted in lower living costs and thus helped spur the growth of nuclear households. Going forward, the combination of nuclear households coupled with rising household incomes is likely to trigger demand for, among other things, new houses, as well as aesthetic home improvement solutions including paints and coatings.

**Distribution of Households, by household Size, 2009-2015**



Source: National Statistics Office, Thailand, compiled by Frost & Sullivan

Note: All figures are rounded. Base year is 2015.

**The rest of the page is intentionally left blank**

## **2.1.4. Overview of the Paint and Coating industry in Thailand**

### **Paint and Coating Industry**

The retail market for decorative paints and coatings in Thailand increased from approximately THB13,727.2 million in 2011 to approximately THB19,201.3 million in 2016 driven by construction activities, repainting, retail spending and changing consumer preferences. There were several major setbacks in the market during this period as a result of political instability which in turn had an adverse impact on the overall economy. Frost & Sullivan expects the retail market for decorative paints and coatings in Thailand to reach approximately THB24,603.2 million in 2021 on the back of increased repainting activities, higher demand for premium paint and coating products, and greater consumer purchasing power.

The retail market for non-decorative paints and coatings (wood coatings, waterproofing and protective coatings combined) increased from approximately THB4,780.0 million in 2011 to approximately THB6,376.9 million in 2016 primarily driven by greater retail spending and urbanization. Frost & Sullivan forecasts the retail market for non-decorative paints and coatings in Thailand to reach approximately THB8,852.7 million by 2021 due to increasing consumer awareness, robust tourism activity and shorter renovation cycles for furniture and industrialization.

Rising exports to other regions, especially ASEAN countries, is also expanding the paint and coating industry in Thailand. Thai paint and coating exports to ASEAN countries accounted for 67.8% of the total paint and coating exports in 2015, with Myanmar being the largest market (share of 13.5% of total paint and coating exports in 2015). The other large export markets for the Thai paint and coating industry were India (8.3%), Australia (3.4%), and China (2.7%). From 2011 to 2015, the export of paints and related products from Thailand recorded a CAGR of 6.5% from USD100.2 million in 2011 to USD120.8 million in 2015<sup>21</sup>.

### **Decorative Paints and Coatings**

Retail sales of decorative paints and coatings in Thailand are significantly influenced by the housing market. These include repainting of existing houses that consume approximately 75.0%-80.0% of total decorative paint and coating sales and new housing constructions that make up the rest of the sales (approximately 20.0%-25.0%)<sup>22</sup>. Increased awareness and consumer knowledge about decorative paints and coatings, consumer preferences for premium decorative paint and coating products and decrease in average repainting cycles of private household from 7-10 years in 2011 to 5-7 years in 2016 are other factors driving retail sales growth. However, for new commercial and large-scale residential projects, repainting for the first time is done after an average of 9-10 years, while subsequent repainting activities are conducted after every 5-7 years. The rapid pace of urbanization giving rise to the number of urban households, growth in the number of apartments, retail spending, government spending on infrastructure, the flow of FDI into the country are also some of the driving factors behind the growth in retail sales of decorative paints and coatings. Both new housing constructions and permission for land development in Thailand declined considerably between 2014 and 2016. However, its impact on retail sales in the decorative paint and coating market were partially offset by an increase in repainting activities, urbanization, and higher demand of premium decorative paint and coating products, resulting in lower growth rate from 2014 to 2016, rather than a decline in absolute market size. Growth in the decorative paint and coating market is expected to pick up pace from 2017 onward on the back of repainting cycles in private households which are expected to reduce from 5-7 years in 2016 to 3-5 years by 2021. Consequently, repainting and the sale of premium decorative paint and coating products are likely to be key growth drivers for the retail decorative paint and coating market in the forecast period.

---

<sup>21</sup> United Nations Comtrade, International Trade Statistics Database

<sup>22</sup> Interviews with industry participants and Frost & Sullivan analysis

### **Non-decorative Paints and Coatings**

Growth in the retail sales of non-decorative paints and coatings is contingent on several factors such as domestic sales of wooden furniture, industrialization, natural disasters, extreme weather conditions, consumer awareness about the structural integrity of houses, sales of metallic consumer products such as furniture, hardware equipment, as well as overall economic activity. The retail market for non-decorative wood coatings is mainly related to the wooden furniture industry and furniture repainting activities which are mainly DIY in nature; whereas sales of non-decorative protective coatings such as concrete protective coatings and waterproofing depend mainly on repainting activities and consumer awareness about housing protection (protection of floors from damage and walls from dampness). The manufacturing sector led by the automotive, electronics, and consumer goods segment are also set to drive demand in the paint and coating industry, primarily in the non-decorative segment. Automotive production in Thailand is likely to get a much-needed boost from falling production costs and favorable macroeconomic indicators in the forecast period.

### **Market Participants**

Large companies such as TOA Paint (Thailand) Public Company Limited, Jotun Thailand Limited, Beger Co., Ltd, Nippon Paint (Thailand) Co., Ltd and Akzo Nobel Paints (Thailand) Co., Ltd dominate the paint and coating industry in Thailand, supplying the market with decorative and non-decorative paints and coatings used on metal, concrete, wood and for waterproofing. Most of these manufacturers use state-of-the-art production systems that include material mixing machines, filling machines as well as tinting and dosing systems. Use of automated software to control and monitor production is a common practice among Thailand paint manufacturers. Continued investments in research and development are also likely to enable manufacturers to develop new product formulations and cost-effective alternatives in the forecast period.

In Thailand, large paint and coating manufacturers have extensive reach in the country through traditional distributor-retail dealers, modern trade distributors and company-owned or franchised retail dealers. Most of the retail dealers are located in urban areas such as Bangkok and the Bangkok Metropolitan region. Major paint and coating companies such as Nippon Paint (Thailand) Co., Ltd. and TOA Paint (Thailand) Public Company Limited also have paint mixing machines installed with many of their associated retail dealers and modern trade distributors.

### **Key Inputs**

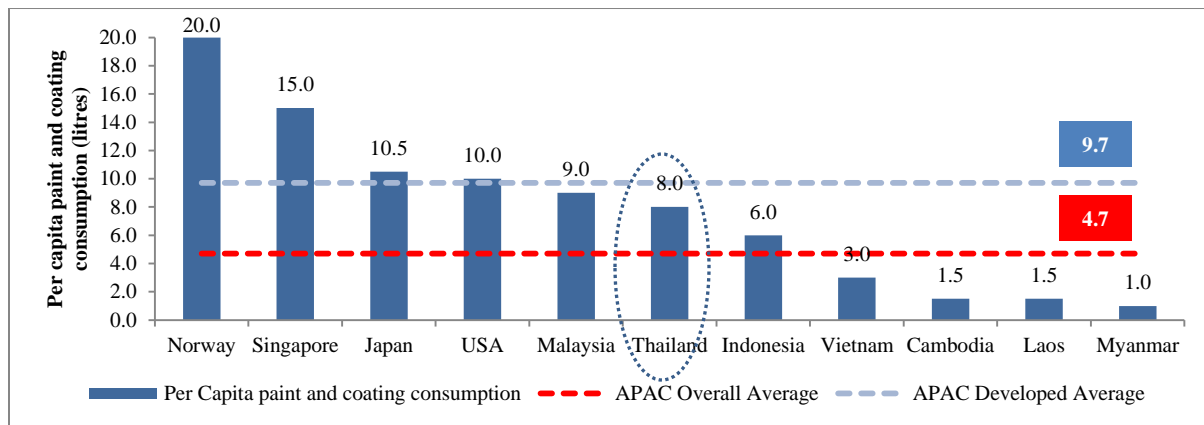
The paint and coating industry in Thailand sources raw materials from large multinational as well as domestic chemical companies. Consequently, production costs are highly sensitive to price fluctuations of raw materials used in the production of pigments, binders, extenders, solvents, and additives which are procured from both domestic and international suppliers. Approximately 15.0%-20.0% of raw material costs are attributed to oil derivatives, costs of which are based on global crude oil prices and susceptible to foreign exchange rates.

Any increase in raw materials costs is likely to be passed on to the end consumer. For example, titanium dioxide, a naturally occurring mineral sourced mainly from the ilmenite ore is also a key ingredient to enhance the brightness and opacity of paint and coating products, with China being one of the biggest producers of this chemical. Global titanium dioxide prices spiked in 2010, forcing Sherwin-Williams, a major paint and coating manufacturer, to revise its' decorative paint pricing three times resulting in an overall increase of 16.0%. However, prices declined in 2015, providing some respite to the paint and coating industry. The chemical also attracts significant demand from the solar power generation industry for use in photovoltaic devices, owing to growing interest globally in renewable energy sources. The Energy Regulatory Commission of Thailand reported an installed capacity of 2,021 MW as of 2017. The latest Alternative Development Plan 2015-2036 by the same agency aims at increasing the solar output to 6,000 MW by 2036, heightening demand for photovoltaic cells. Competition for titanium oxide sources from the solar power generation industry is likely to put pressure on its availability for the paint and coating industry, placing a cap on production quantities for paint and coating manufacturers.

### Per Capita Paint and Coating Consumption

Per capita paint and coating consumption can also be used to compare market maturities of the paint and coating industry across different countries. As seen from the chart below, the average per capita paint and coating consumption in the Asia-Pacific region in 2015 was 4.7 liters whereas the same for Thailand in 2016 was almost double at 8.0 liters. However it was less as compared to other countries in the Asia-Pacific region such as Singapore (15.0 liters), Japan (10.5 liters) and Malaysia (9.0 liters). It was also less than half of that of Norway<sup>23</sup> which had consumption per capita of paints and coatings of 20.0 liters in 2016. Frost & Sullivan believes that the current pace of residential and commercial developments in the country including the opening up of trade channels on the backdrop of AEC is likely to drive paint and coating consumption in the forecast period.

**Per capita paint and coating consumption, litres, 2016**



Source: Coatings World, Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan.

Note: All figures are rounded. Base year is 2015 for APAC Overall Average and 2016 for the rest. APAC Developed Average is the average per capita paint and coating consumption for Singapore, Japan, Malaysia, Thailand and Indonesia.

**The rest of the page is intentionally left blank**

<sup>23</sup> Norway has been mentioned in this study as the country has one of the highest per capita paint and coating consumptions in the world

### 2.1.5. Value Chain and Distribution Chain Analysis

The paint and coating industry relies heavily on the petrochemical and mining industries for basic raw materials and intermediates to produce inorganic and fine chemicals, monomers, polymers, solvents, and additives. Monomers and polymers are used to manufacture resins that make up the major components of binders while chemicals are used to create pigments. Most paints and coatings are made up of three elements: the pigment, the binder, and the solvent. The solvents and additives derived from petrochemical products are mixed with the binders (collectively known as the vehicle) to formulate paint.

The upstream flow of raw materials for the paint and coating industry starts with the production of petrochemical derivatives and mining of minerals, generally manufactured by large corporations that cater to various other sectors of the economy. The raw materials (petrochemical derivatives and mined minerals) are used by major chemical companies such as Dow to produce resins and intermediates for the paint and coating industry in Thailand. Other resin manufacturers in the country are mostly multinationals as well. Paint and coating manufacturers enter the picture post-resin manufacturing. There is minimal integration between resin manufacturers and the paint and coating producers in Thailand.

Independent paint and coating companies in Thailand produce different variants including decorative and non-decorative, water based and solvent based and domestic and industrial categories which are supplied in the market using different channels. Retail channel dominates the decorative paint and coating sales in the country. Here, the goods move from the manufacturer to the retail dealers<sup>24</sup> either directly or through distributors and ultimately to the end-user (i.e. individuals, project owners and contractors). In addition, sales through modern trade channel are also gaining prominence wherein paint and coating manufacturers sell their products directly to modern trade distributors<sup>25</sup>. Project owners and contractors also source their requirements directly from distributors where they can secure discounts by placing bulk orders. Many large paint and coating manufacturers in Thailand also own retail outlets or franchises. In terms of non-decorative paint and coating sales, paint and coating manufacturers tend to sell their products directly to OEMs. Additionally on a project by project basis, contractors and developers handling large-scale projects prefer to procure paints and coatings directly from paint and coating manufacturers. According to Frost & Sullivan, Thailand has roughly 30,000 to 40,000 contractor companies operating in the building construction industry and approximately 2,500 to 3,000 infrastructure contractors. Thailand also has about 150 to 200 off-site furniture manufacturers driving significant demand for both decorative and non-decorative paint and coating sales.

**The rest of the page is intentionally left blank**

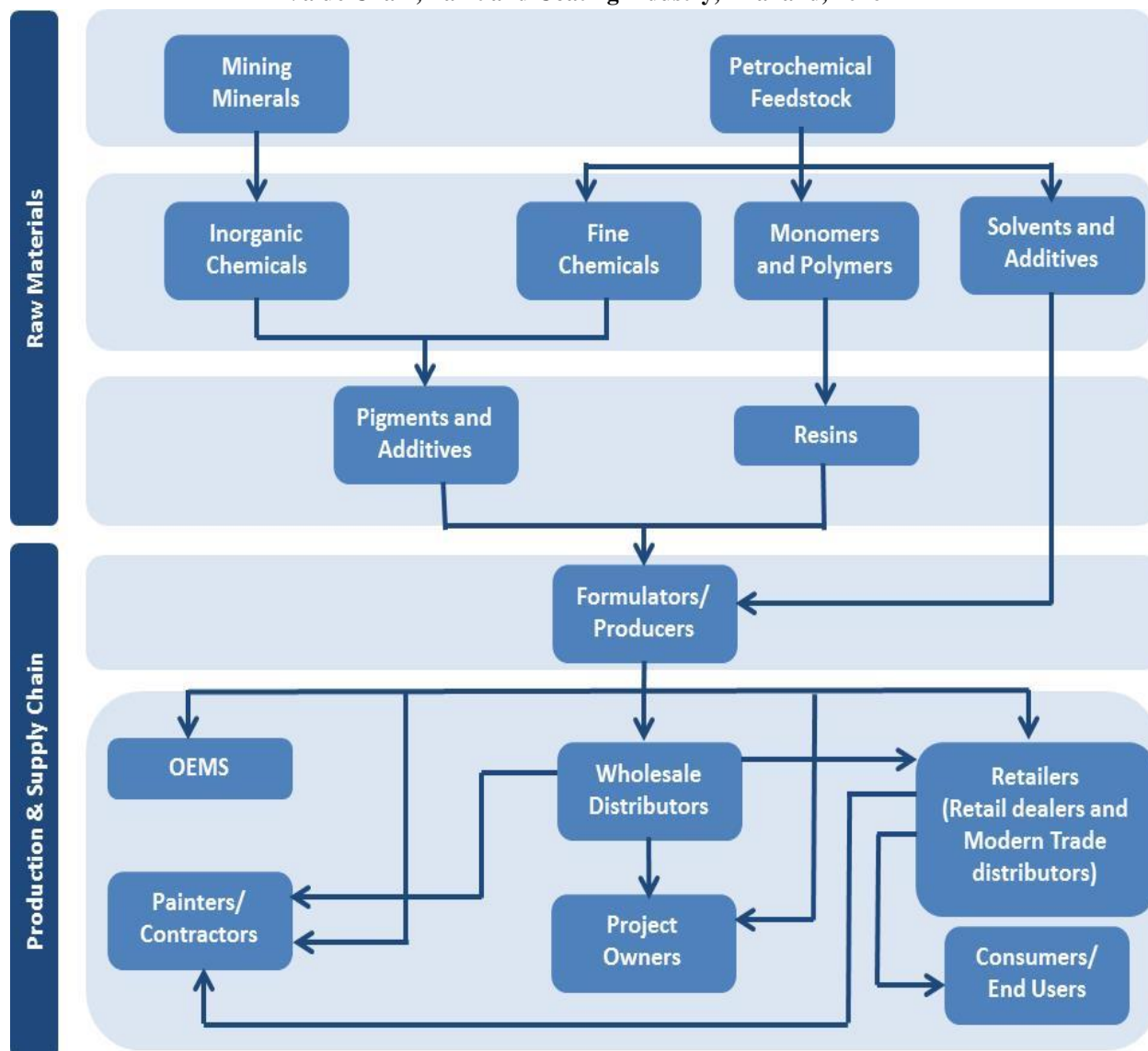
---

<sup>24</sup> Retail dealers are defined as standalone retail shops with expansive distribution network

<sup>25</sup> Modern trade distributors refer to large home building and home improvement chain stores



Value Chain, Paint and Coating industry, Thailand, 2016



Source: Frost & Sullivan

The rest of the page is intentionally left blank

## **2.1.6. Drivers of the Paint and Coating Industry**

### **Continued Urbanization and decreasing household sizes**

The increasing urban population along with decreasing household sizes drives demand for more housing in city centers. The consequent increase in houses and formation of households, both in terms of new builds or renovations and relocation of households from rural to urban areas, continues to impact the paint and coating industry positively. Urbanization also boosts paint and coating sales by creating demand for retail and entertainment spaces such as malls, multiplexes and theme parks. The urban population in Thailand registered a CAGR of 2.9% from 2011 to 2016, increasing from 30.2 million inhabitants in 2011 to 34.8 million inhabitants in 2016. The urban population in 2016 was 51.1% of the country's total population, from 45.2% in 2011. The urban population is projected to expand at a CAGR of 2.1% from 2016 to 2021, reaching 38.6 million inhabitants by 2021 and accounting for 56.2% of Thailand's total population due to increasing industrialization. According to Frost & Sullivan, as a result of the increase in urban population and decrease in size of households, number of urban households in Thailand grew from 9.8 million in 2010 to approximately 11.3 million in 2015 and is forecasted to reach approximately 12.9 million by 2021. This increase in urban population is expected to continue to be a significant driver for decorative and non-decorative paint and coating sales in the future.<sup>26</sup>

### **Demand for new housing and repainting**

The number of new built homes<sup>27</sup> completed in Thailand (for Bangkok and surrounding provinces) recorded CAGR of approximately 2.4% from 106, 893 units in 2010 to 123,383 units in 2016 (CAGR of 8.6% between 2011 and 2016), resulting in a consequential rise in the demand for decorative paints and coatings. Growth was more pronounced between 2011 and 2016 when the number of new houses (in Bangkok and surrounding provinces) increased from 81,856 units to 123, 383 units in 2016, at a CAGR of 8.6%. The decline (by 23.4%) in new housing between in 2011 from 2010 was mainly due to the country being hit by devastating floods. However, in 2012, the number of new housing increased by an impressive rate of 52.7%, spearheaded by a rise (approximately 125.7%) in the number of apartments. Between 2011 and 2016, the CAGR for housing projects, apartments and condominiums and self-built houses recorded 3.3%, 14.9% and 1.7%, respectively. The Japan International Cooperation Agency (JICA)<sup>28</sup> estimates that Bangkok and the surrounding provinces require approximately 3.3 million new houses from 2010 to 2020, of which only 25.1% or 827,000 are built to date. The growth in sales of paints and coatings, especially in decorative paints and coatings, is a lagging indicator to the growth in the housing market.

According to Frost & Sullivan, approximately 20.0%-25.0% of decorative paint and coating sales to the housing market relates to the painting of new houses while the rest (approximately 75.0%-80.0%) is used for repainting purposes. Higher sales of decorative paints and coatings for repainting purposes is mainly due to the fact that in Thailand the number of new housing constructions as a percentage of total housing stock has historically varied between 1.4% and 2.0%<sup>29</sup>. With new houses added to the total housing stock every year, the demand for decorative paints and coatings is expected to be primarily driven by shorter cycles of repainting activities such as repainting of interior and exterior walls. Moreover, high-end condominiums in Thailand, which cost approximately THB100,000.0 per square meter, use imported wood materials for flooring. These are likely to generate demand for non-decorative paints and coatings in the forecast period. Waterproofing in newly constructed houses and existing

---

<sup>26</sup> World Urbanization Prospects, United Nations

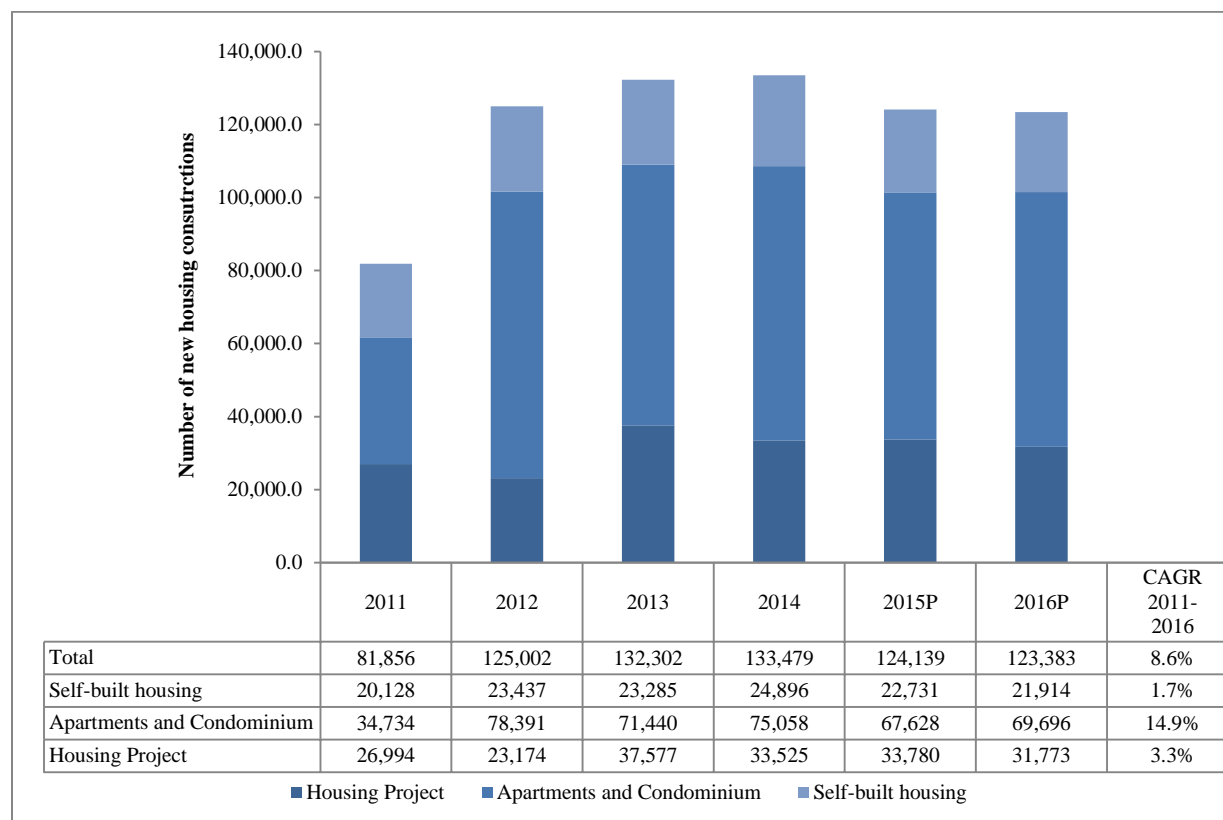
<sup>27</sup> Includes housing projects, apartments and condominiums and self-build houses

<sup>28</sup> The Japan International Cooperation Agency is a governmental agency that coordinates official development assistance for the government of Japan

<sup>29</sup> The Japan International Cooperation Agency (JICA)

houses that require repairing are also expected to stimulate demand for the sale of non-decorative waterproofing in the retail market, as buildings and their structural components require protection from moisture, dampness and rust.

### New Housing Constructions in Bangkok and Vicinity, Thailand, 2011-2016P



Source: Bank of Thailand, compiled by Frost & Sullivan

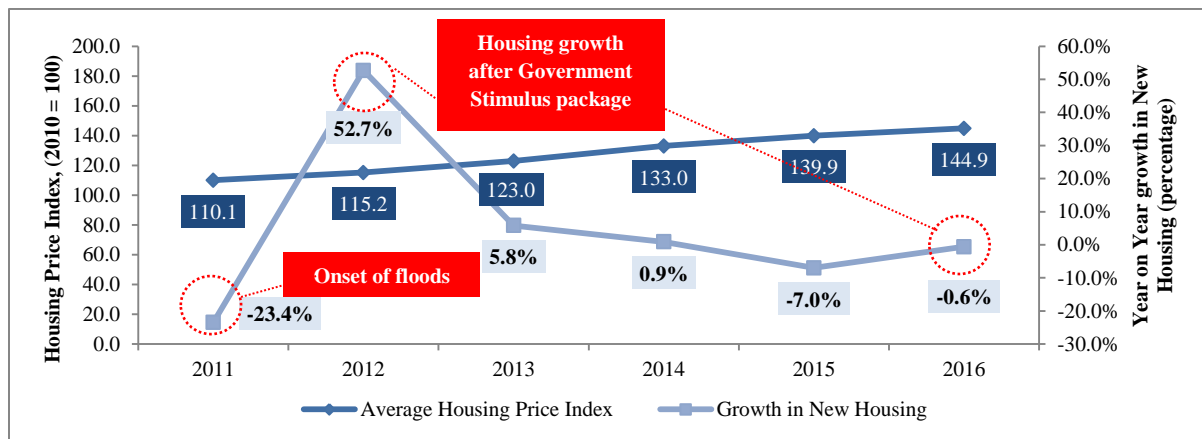
Note: All figures are rounded. The values given in the chart above for 2015 and 2016 are projections by Bank of Thailand. Actual data not available

**The rest of the page is intentionally left blank**

## Government Incentives

Government incentives have fueled growth in the construction sector in Thailand since 2012. New housing developments increased significantly in 2012 from 2011 due to the government's property stimulus package (as a response to the devastating effects of the floods in 2011) which included a 5-year tax break for new houses priced at less than THB5.0 million. The package also included a 10.0% tax reimbursement over five years applicable to new homebuyers. Between 2015 and 2016, the government successfully implemented another stimulus plan to disburse THB10.0 billion worth of housing loans through the Government Housing Bank of Thailand for people with low-incomes and those whose mortgage applications with other financial institutions were previously rejected. In 2016, the government also approved a financial package to support lower-income people to buy houses. A budget of THB70.0 billion is being provided in the form of soft loans to developers of Pracha Rath housing projects as pre-finance loans, and to home buyers as post-finance loans. Both the government stimulus packages almost offset the decline in new constructions growth in the housing sector despite increases in the average housing price index. Greater government incentives in the housing market bode well for the decorative and non-decorative paint and coating market.

Average Housing Price Index, 2011-2016<sup>30</sup>



Source: Bank of Thailand and Frost & Sullivan Analysis, compiled by Frost & Sullivan

Note: All figures are rounded.

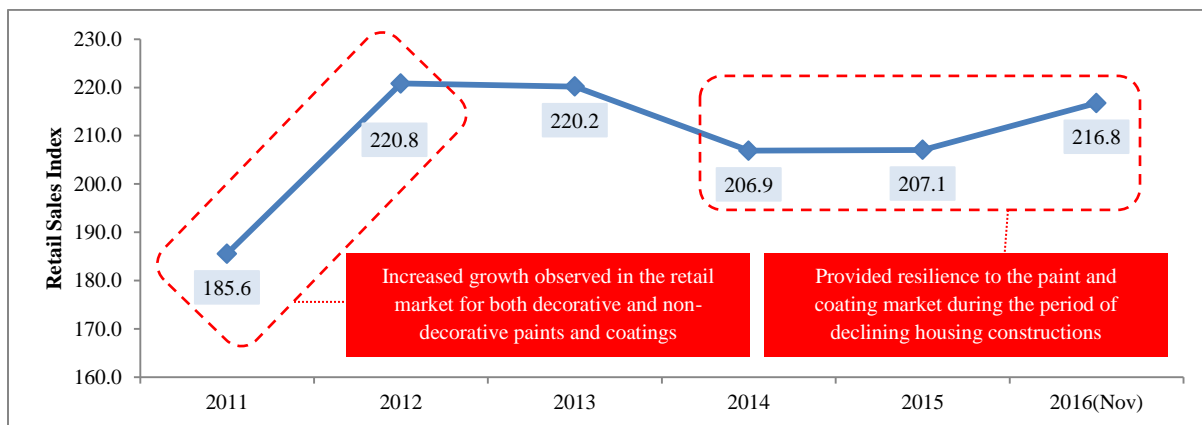
The rest of the page is intentionally left blank

<sup>30</sup> Combined index for Single detached house, Town house and Condominium

### **Rise in retail spending**

Robust retail spending continues to spur demand for textiles, consumer durables, and food and beverages, to name a few. The ongoing demand and construction of new retail spaces that require extensive decoration are likely to result in a greater need for decorative paints and coatings. The retail sales index for Thailand saw a significant growth from 185.6 in 2011 to 220.8 in 2012 driven by increased household consumption<sup>31</sup> and rising consumer confidence<sup>32</sup>. This steep increase was a major driving factor for growth in the retail market for decorative and non-decorative paints and coatings, especially wood coatings. The retail sales index dropped to 206.9 in 2014, while increasing marginally to 207.1 in 2015 before bouncing back to 216.8 in November 2016 driven by consumer optimism in the economy. The bright outlook for retail spending, in turn, is set to boost sales for both decorative and non-decorative paints and coatings over the forecast period

**Retail Sales Index, Thailand, 2011-2016 (November)**



Source: Bank of Thailand and Frost & Sullivan Analysis, Compiled by Frost & Sullivan  
Note: Note: All figures are rounded. Base year for the index is 2002

### **Growth in purchasing power**

As the purchasing power of people increases, they are likely to make more long-term investments rather than spending on consumable and perishable goods. Total personal disposable incomes in Thailand grew from THB6,339.9 billion in 2011 to THB7,579.4 billion in 2016 at a CAGR of 3.6%. It is forecast to increase at an even higher CAGR of approximately 5.7% between 2016 and 2020 reaching approximately THB9,494.7 billion by 2020<sup>33</sup>.

Higher disposable incomes and increased purchasing power of the population is likely to fuel long-term investments in real-estate and also drive repainting demand that was erstwhile deferred. Almost 75%-80.0% of paint and coating sales across key segments are from repainting activities resulting in it being a key driver for this industry in the forecast period.

While the retail decorative segment is likely to be driven by repainting of walls and interiors, the interior wood furnishing segment that appeals to the upper-middle class of the society is likely to drive consumption of enamel polish and lacquer to maintain the shine and to enhance the longevity of wood products.

<sup>31</sup> <https://www.thailand-business-news.com/business/46211-thailands-retail-sector-to-continue-expanding.html>

<sup>32</sup> Consumer Confidence Index increased from 22.3 in 2011 to 290 in 2012, Bureau of Trade and Economic Indices, Thailand

<sup>33</sup> The Economist Intelligence Unit, EIU

### **Increased demand for Premium products**

The high-income group dominates the customer segment for premium decorative paints and coatings. Sales of this category of decorative paints and coatings are mainly driven by the construction of high-end condominiums and villas, and their repainting as well. While growth in the overall construction industry slowed in 2015 and 2016, Bangkok had a burgeoning luxury condominium market in both years owing to the fact they are more affordable than that of similar residences in other major ASEAN cities such as Singapore and Kuala Lumpur, offering higher potential for capital appreciation. Average prices for high-end condominiums in Thailand are range bound between USD3,000.0-USD5,400.0 per square meter<sup>34</sup>, whereas prices of high-end condominiums in Kuala Lumpur generally are priced at approximately USD4,900.0 per square meter<sup>35</sup> and could be as high as USD10,000.0 in Singapore<sup>36</sup>. In 2016, more than 3,500 high-end condominium units were constructed in Bangkok and its surrounding provinces with approximately 70.0%-80.0% sold before their launch. The high-end condominiums generally use the best raw materials from around the world for construction, interior design, and furniture. Growing demand for high-end, luxury residences are expected to boost demand for premium decorative paints and coatings, used in the painting of interior and exterior walls, and for non-decorative paints and coatings, which can be used for structural and furniture protection purposes.

### **Tourism**

The tourism industry in Thailand saw 8.4% growth in tourist arrivals from approximately 29.9 million international visitors in 2015 to approximately 32.4 million in 2016. Revenues from tourism also increased by approximately 11.7% between 2015 and 2016, growing from THB1.5 trillion in 2015 to THB1.6 trillion in 2016. Higher tourism spends are expected to boost growth in the hospitality sector, spurring the development of hotels. This in turn could propel demand in the paint and coating industry, especially for non-decorative wood coatings since a large number of hotels in Thailand use wooden furniture as well as natural wood and logwood products in their building structures.

### **Renovation of Wooden Furniture and use of Fiber Cement**

The increasing use of fiber cement in constructions, as a substitute for wood, mainly due to its strength, durability and low cost<sup>37</sup>, is pushing up demand for non-decorative emulsion wood coatings. Greater use of wooden floors in apartments is also contributing to growth in non-decorative wood coating sales. The wooden furniture industry also consumes non-decorative wood coatings for furniture manufacturing and refurbishment purposes. Non-decorative wood coating used in wooden furniture repair is approximately two times that of non-decorative wood coating used in furniture manufacturing. Domestic wooden furniture consumption in Thailand has declined in the past few years (2014-2016), resulting in consumer preference for refurbishment over new purchases. This decrease in domestic furniture sales is expected to result in shorter refurbishment cycles for wooden furniture over a longer period. Since non-decorative wood coating consumption for refurbishment is twice that of new furniture manufacturing, shorter repainting cycles are likely to add to the sales of non-decorative wood coatings.

---

<sup>34</sup> <https://whatsonsukhumvit.com/the-bangkok-condo-market-in-2016-its-all-about-luxury-and-foreign-buyers/>

<sup>35</sup> <http://www.thestar.com.my/business/business-news/2016/08/09/kl-high-end-condominium-market-lacklustre-report/>

<sup>36</sup> <http://www.todayonline.com/business/are-we-wrong-about-singapores-housing-market>

<sup>37</sup> The material cost for fiber cement is only less than 5 times of natural wood.

### **Strong economic activity and jobs growth**

Overall economic growth is driven by multiple factors such as investments (both public and private), trade (both foreign and domestic) and expenditure (both individual and government). The heightened economic activity also leads to greater job opportunities and higher incomes. Total personal disposable incomes in Thailand grew from THB6,339.9 billion in 2011 to THB7,579.4 billion in 2016 at a CAGR of 3.6%. It is forecast to increase at an even higher CAGR of approximately 5.7% between 2016 and 2020 reaching approximately THB9,494.7 billion by 2020. Increased employment opportunities stimulate demand for houses and increase the probability of people shifting their spending toward premium products in general. The unemployment rate in Thailand has sharply decreased in the past 16 years, falling from 2.4% in 2000 to 0.9% in 2014<sup>38</sup>. The latest labor force survey (2016) conducted by the National Statistics Office Thailand, estimates an unemployment rate of only 0.7%<sup>39</sup>. As unemployment in Thailand continues its downward trend, more people are likely to opt for new houses and premium decorative and non-decorative paints and coatings. This is expected to boost sales in the paint and coating industry both in terms of volume and value during the forecast period.

### **Increased spending on infrastructure**

Government efforts to improve and develop public infrastructure is one of the major market creators for the paint and coating industry. Higher spending on infrastructure is expected to generate demand for both decorative and non-decorative paints and coatings which contribute to the aesthetic and functional appeal, respectively, of public infrastructure. The retail market for paints and coatings is also likely to benefit from this as many project owners and contractors purchase paint and coating products through retail dealers. The government of Thailand plans to invest THB1,411.6 billion between 2017 and 2022 towards 20 large infrastructure projects, mostly transport related, including railways, airports, marine logistics, and air freight. As of March 2017, only 1.0% of the total amount had been spent. The remaining 99.0% of the investment, an amount of THB1,397.5 billion expenditure towards infrastructure development, is likely to present lucrative opportunities for the paint and coating industry in Thailand over the forecast period. The Infrastructure Development Master Plan 2015-2022 states that investments are likely to be sourced mostly from SOEs<sup>40</sup> (73.0%) with almost negligible financing coming from Public Private Partnerships (PPPs)<sup>41</sup>.

### **FDI inflows and rapid industrialization**

FDI inflows into the country benefit the development of primary, manufacturing and services sectors, stimulating the need for non-decorative paints and coatings. This in turn increases demand for non-decorative paints and coatings in the retail market since project owners and contractors in Thailand buy paint and coating products from both retail dealers and manufacturers. In the first half of 2016, the Thailand Board of Investment reported investments in 853 projects worth a total of USD9.2 billion spanning areas including Automotive (25 projects, USD979.0 million), Electrical and Electronics (39 projects, USD685.0 million), Petrochemicals (28 projects, USD292.0 million) and Agro-processing (31 projects, USD250.0 million). Of the 853 projects, 510 had foreign investment, amounting to a total of USD3.8 billion. FDI inflows from Japan were highest, amounting to USD779.0 million for 151 projects, followed by China, with investments amounting to USD617.0 million for 55 projects. Many investors are also actively investing in Special Economic Zones (SEZs) being developed in the five provinces of Tak, Mukdahan, Sa Kaeo, Trat, and Song Kha. Greater spending in these zones that require the construction of

---

<sup>38</sup> World Bank, based on International Labor Organization (ILO) estimates

<sup>39</sup> National Statistics Office, Thailand

<sup>40</sup> State Owned Enterprises

<sup>41</sup> Bank of Thailand, National Economic and Social Development Board of Thailand (NESDB)

office spaces and factories is likely to drive demand in the non-decorative paint and coating market. An increase in the number of small and medium scale factories which use non-decorative protective paints and coatings for maintenance of machines, protecting construction materials made of steel, strengthening of factory structures, among many other such activities, is likely to drive the consumption of metal protective coatings in the country. Demand for non-decorative waterproofing and wood coatings are likely to be driven by the growth in the number of office buildings which require adequate protection from moisture and dampness (waterproofing) and wooden furniture and furnishings (wood coatings) which is a key end-use segment for industrial lacquer.

### **Membership in AEC**

The ASEAN Economic Community (AEC) implemented on December 31, 2015, proposes the economic integration of ASEAN countries by facilitating a single market and production base, equitable economic development, integration in the globalized economy and formation of a competitive economic region<sup>42</sup>. The major principles of AEC are the free flow of goods, services, investments and skilled labor. Thailand's membership in the AEC is beneficial to the paint and coating industry, primarily in aiding access to capital and labor from different ASEAN countries with an easing of rules, regulations and tariffs. For instance, a reduction in import/export duties is expected to help the paint and coating industry in Thailand to reassess their future investment locations (in terms of optimized production costs). The free flow of goods is likely to open up new markets for the existing production facilities of Thai paint and coating manufacturers within the ASEAN. Moreover, integration of ASEAN's trade with the global economy is expected to boost competition among paint and coating companies across the value chain, making it easier for paint and coating manufacturers from Thailand to procure raw materials as well as provide them with access to skilled workforce globally.

### **Growth in Modern Trade Distribution**

Paint and coating manufacturers in Thailand have predominantly operated through traditional sales channels (through retail dealers) driven by a strong retailer dealer-producer/manufacturer relationship. Sometimes, mostly during new product launches, this also allowed them to gain exclusivity (promotion of own paint and coating brand only). However, with the rise of modern trade, paint and coating manufacturers are required to make additional investments in tinting machines and deployment of personal consultants (PCs) with the modern trade distributors. Frost & Sullivan opines that although the rise of modern trade channel is likely to result in a downward pressure on margins in the short-term, this is also expected to result in greater retail consumer awareness and participation in the painting process. This in-turn is likely to promote sales through the DIY channel as more consumers resort to visiting the modern trade outlet and make personal choices in consultation with the painter who accompanies them. Going forward, in the forecast period, a rise in DIY channel sales is gradually expected to offset the margin pressures and is likely to augur well for paint and coating manufacturers.

**The rest of the page is intentionally left blank**

---

<sup>42</sup> <https://aseanup.com/benefits-asean-economic-community-aec/>



### **2.1.7. Barriers to Entry**

#### **Brand Awareness**

Existing leading paint and coating manufacturers have strong brand-recall status in the minds of the retail consumer by way of their proven track record and established market presence. Traditional retailers also prefer to stock products of established manufacturers as it gives them better margins by way of a relatively shorter shelf-time in comparison to lesser known brands. Therefore, in order to create awareness and promote the brand name, a new entrant has to engage in significant promotional activities, and also overcome retail dealer-resistance in stocking their products which is in-turn likely to result in lower bargaining power. A combination of the aforementioned factors is likely to put a downward pressure on margins serving as a key barrier to entry for a new entrant into the paint and coating industry.

#### **Long-standing and close supplier relationships**

In an industry where raw materials comprise approximately 70.0%-80.0% of the costs of goods sold, a continuous supply of resources is a primary driver of long-term growth. This is ensured by way of fostering long-standing and close supplier relationships, a key advantage that is available to the existing large paint and coating manufacturers. Additionally, these existing manufacturers also have pricing contracts driven by their history of association with the participants in the value chain. For a new entrant, the absence of a robust network of suppliers and logistics service providers, and challenges in setting up commercially viable and attractive terms with domestic suppliers are likely to be time and money intensive serving as a significant barrier to entry in the paint and coating industry.

#### **Ability to innovate and respond to consumer trends**

Established paint and manufacturer companies by way of their expansive retail dealer reach are in touch with the 'pulse of the market' enabling them to innovate and make changes to rapidly evolving consumer demands. Rapid innovation demands a strong research and development team to translate customer requirements into new sustainable products. For example, an emerging trend in the Thailand paint and coating industry is the increasing awareness of 'environment friendly' paints and coatings especially in the premium segment. Leading established companies are better equipped to cater to this segment of the market as against a new entrant who is likely to face challenges in keeping pace with rapid changes and evolving consumer preferences.

#### **Creating a robust distribution network**

Thailand has a relatively low population density of 134 persons per square kilometer compared to regional neighbors such as Vietnam (308) and Indonesia (146) <sup>43</sup> necessitating the importance of a robust distribution network to cater to the wide-spread population. Existing large paint and coating manufacturers already have a strong distribution network by virtue of their long-standing presence in the industry generating almost 75.0% to 80.0% sales from their retail dealer distribution channel. New entrants are likely to face significant challenges in establishing a strong distribution network also impacted by lack of local market knowledge; cross-cultural issues and many other such factors serving as strong barriers to entry into the Thai paint and coating industry.

---

<sup>43</sup> The United Nations

### **Skilled workforce required for large-scale manufacturing**

Hiring and retaining qualified workers as well as enhancing the skills of the workforce are essential requirements for any large-scale manufacturer. Despite the labor cost index in Thailand falling from 103.9 in Q3 2015 to 102.67 in Q3 2016, there have been changes to the minimum wages in various parts of the country. For example, the Samut Prakan province introduced a new minimum wage effective January 2017, increasing the daily labor wages from THB300.0 to THB310.0. The shortage of qualified local talent is also resulting in an influx of skilled foreign labor into the country to meet the current demand. The ILO (International Labor Organization) anticipates a decline in the working-age population (those aged from 15-64) until 2050, creating further shortage. The domestic labor shortage is expected to affect production plans and costs in the paint and coating industry in the forecast period.

## **2.1.8. Key Regulations Governing the Industry**

### **Restriction of lead and other heavy metal usage in paints**

Thailand has adopted mandatory lead paint regulations, under the Industrial Products Standards Act, with effect from January 2017. The country has issued compulsory legislation that seeks to control the amount of heavy metals in enamel-based paints and coatings used for waterproofing, rot-proofing, and decorative and construction purposes. Paints and coatings produced and sold in Thailand are now required to have no more than 0.01% of mercury, lead, and cadmium, and no more than 0.1% hexavalent chromium in their dry weights. In addition, alkyd enamel paints and coatings that are manufactured and sold in Thailand must bear warning labels informing about their potential dangers. Thailand is the fourth country during 2014-2016 to adopt the policy as part of the International POPs (Persistent Organic Pollutants) Elimination Network's (IPEN) Global Lead Paint Elimination<sup>44</sup>. Although the restriction may add to the costs of paint and coating products, complying with environmental regulations is likely to boost consumer trust as environmental activism keeps building momentum.

### **Industrial Products Standards Act**

The Industrial Products Standards Act, B.E. 2511 (1968 and any amendments thereof) requires certain products to bear specifications as established by the Minister of Industry and proposed by the Industrial Products Standards Council. The stipulated standards may include dimensions, manufacturing procedures used, methods of experiment and analysis, raw materials used, methods of packing, and testing mechanisms. The Industrial Products Standards Act also requires various industries to display proper specifications of their products as labels on the product itself. Certification marks can only be shown on the product upon thorough inspection by authorized officials or licenses inspectors. The act applies to imported goods as well. The inspections include product inspection and quality control systems inspection which apply to almost all stages of the paint and coating product's lifecycle since it involves a long production chain comprising various chemicals as raw materials and industrial processes that require the use of different types of heavy machinery.

---

<sup>44</sup> <http://www.ipen.org/news/thailand-institutes-lead-paint-regulation>

### **Factory Acts**

The Factory Act, B.E. 2535 (1992 and any amendments thereof) requires operators from various sectors using machinery and manpower to notify or request for permission depending on the quantities of their production enablers. Generally, factories with more than 20 HP of machinery or more than 20 workers but with not more than 50 HP of machinery or not more than 50 workers are expected to notify officials from the Ministry of Industry before commencing operations. While, in general, factories having more than 50 of either parameters are required to apply and receive written permission before starting operations. As the paint and coating industry relies largely on heavy machinery and manpower, paint and coating manufacturers are expected to comply with the aforementioned bureaucratic protocols before a plant becomes operational.

### **Certifications for paint and coating manufacturing procedures and their side effects**

The paint and coating industry uses hazardous chemicals such as raw materials, intermediate products, and heavy machinery in the production chain, posing risks to the environment and the health and safety of employees. The production, procurement and import or export of certain hazardous chemicals requires permission under the Hazardous Substances Act, B.E. 2535 (1992 and any amendments thereof). To ensure both environmental and health and safety levels are not compromised, the industry participants generally try to obtain certain production certifications reflecting overall implementation of such measures. ISO 14001 (certification for environment management systems), ISO 50001 (certification for energy management systems), OHSAS 18001 (certification for occupational health and safety), ISO 17025 (requirements for competence of testing and calibration laboratories) and Certification for Carbon Footprint for Organization are several such certifications the paint and coating industry in Thailand chooses to comply with to meet quality standards.

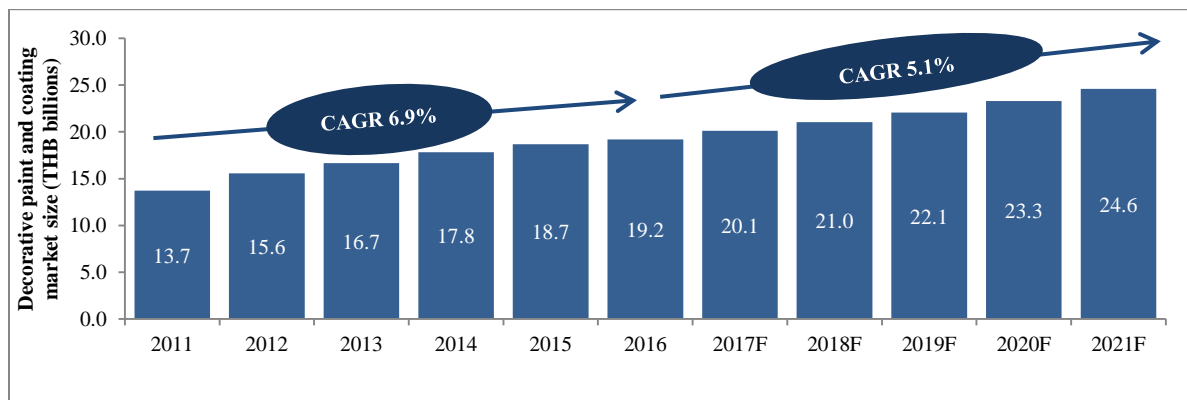
**The rest of the page is intentionally left blank**

### 2.1.9. Market Sizing and Forecasts

The retail market for decorative paints and coatings in Thailand recorded a CAGR of approximately 6.9% between 2011 and 2016, from approximately THB13.7 billion in 2011 to approximately THB19.2 billion in 2016. Extensive growth was observed between 2011 and 2012 owing to the stimulus package provided by the Thai Government for low-income housing projects. However, growth rates in the later years gradually decreased as a result of political uncertainties leading to a slowdown in the overall economy, decline in the number of new housing constructions and decrease in issuing permission for land development (number of fresh permissions for land development nationwide declined by approximately 27.4%, falling from 120,657 units in 2011 to 87,570 units in 2016<sup>45</sup>), among many others.

Despite a slowdown resulting from the factors discussed above, growth in sales of decorative paints and coatings remained positive as the imminent decline was offset by the demand generated from repainting activities. The 2015 government stimulus package for low cost housings and higher revenues generated from sales of premium decorative paints and coatings mainly driven by improvement in spending capabilities as evinced by rising disposable incomes and greater awareness of quality. The future for decorative paint and coating market is expected to be promising as it is likely to register relatively strong growth rates on the backdrop of changing political environment (possible withdrawal of military rule and shift to a civilian run government), increased repainting activities resulting from a continuously increasing housing stock, shorter repainting cycles, greater shift in consumer preferences towards premium decorative paint and coating products and existing government subsidies towards the housing sector, among many others. Driven by the various factors as discussed, the retail market for decorative paints and coatings is expected to grow at a CAGR of 5.1%<sup>46</sup> between 2016 and 2021, increasing from THB19.2 billion in 2016 to THB24.6 billion in 2021.

**Retail Market Size of the Decorative Paints and Coatings in Thailand, THB, 2011-2021F**



Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan

Note: All figures are rounded. Base year is 2016.

The retail market for non-decorative paints and coatings in Thailand is comprised of three segments, non-decorative wood coatings, non-decorative waterproofing and non-decorative protective coatings (comprising non-decorative concrete protective coatings and non-decorative metal protective coatings). Between 2011 and 2016, the total retail market for non-decorative paints and coatings registered a CAGR of approximately 5.9%, growing from THB4,780.0 million in 2011 to THB6,376.9 million in 2016. The market is expected to grow at a higher CAGR of 6.8% between 2016 and 2021, growing from THB6,376.9 million in 2016 to THB8,852.7 million in 2021.

<sup>45</sup> Bank of Thailand, <https://www.bot.or.th/English/Statistics/EconomicAndFinancial/Pages/StatPropertyIndicators.aspx>

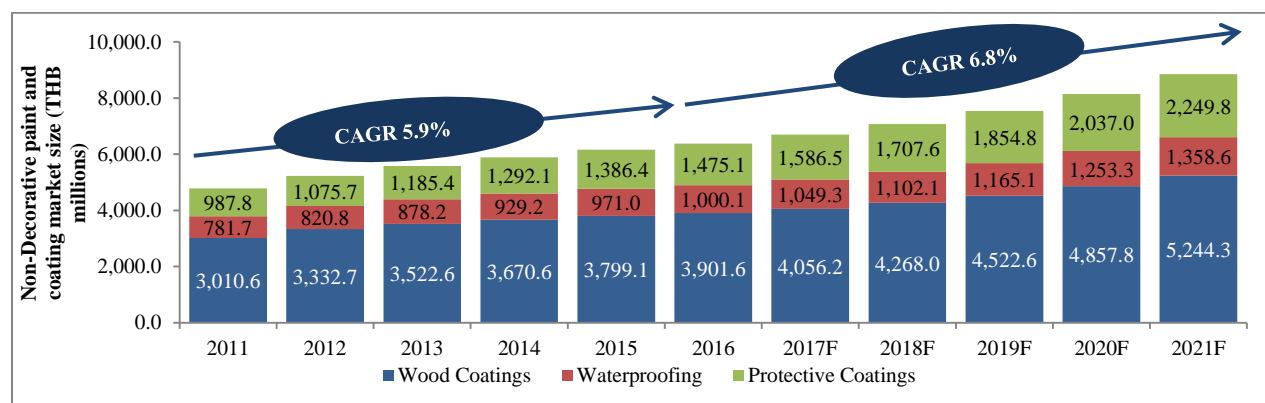
<sup>46</sup> Forecast CAGR of 5.1% is slightly less than the historical CAGR of 6.9% mainly because of the significant slump the market witnessed in 2011 and the pace of rebound historically.

Among the three segments, highest growth was observed in the retail market for non-decorative protective coatings mainly due to its demand in both construction and industrial activities. Sales in this segment grew at a CAGR of 8.4% between 2011 and 2016, growing from THB987.8 million in 2011 to THB1,475.1 million in 2016. Growth between 2011 and 2013 was primarily driven by increased number of housing constructions. However, post-2013, growth rates declined gradually between 2014 and 2016 due to a slowdown in overall economic activity. Going forward, the market is expected to grow at a CAGR of 8.8%, growing from THB1,475.1 million in 2016 to THB2,249.8 million in 2021. Increased FDI inflow, growth in the number of medium and small scale industries, government spending on transport related infrastructures, increased consumer awareness about protective coatings as well as house repainting and renovating activities are expected to drive growth in the forecast period.

The retail market for non-decorative wood coatings in Thailand increased at a CAGR of 5.3%, growing from THB3,010.6 million in 2011 to THB3,901.6 million in 2016. The YOY growth rate between 2011 and 2012 was as high as 10.7% mainly due to a surge in retail spending. However, the growth rates declined gradually between 2013 and 2016 owing to a decline in domestic furniture consumption as well as reduced overall economic activity nationwide (also reflected in a dip in the retail sales index). However, the retail market for non-decorative wood coatings is expected to grow at a CAGR of 6.1% between 2016 and 2021, growing from THB3,901.6 million in 2016 to THB5,244.3 million in 2021. Increased growth in the retail market for non-decorative wood coatings are likely to be driven by increased renovation and repainting of wooden furniture, shorter renovation cycles, use of cement fiber, growth in tourism and demand for high-end, luxury condominiums.

The retail non-decorative waterproofing market in Thailand grew at a CAGR of 5.1% between 2011 and 2016, growing from THB781.7 million in 2011 to THB1,000.1 million in 2016. A slightly lower growth in the retail market for non-decorative waterproofing was due to its negligible connection to the wooden furniture industry. Also, due to its links with the construction sector and repainting, the market growth declined gradually between 2012 and 2016. However, Frost & Sullivan expects the retail market for non-decorative waterproofing in Thailand to grow at a CAGR of 6.3% between 2016 and 2021, growing from THB1,000.1 million in 2016 to THB1,358.6 million in 2021. Growth in the forecast period is likely to be primarily driven by repainting activities and increased consumer awareness about housing structure protection. Industrialization due to FDI inflows is also expected to contribute to the growth in this market.

**Retail Market Size of Non-Decorative Paints and Coatings in Thailand, THB, 2011-2021F**



Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan

Note: All figures are rounded. Base year is 2016.

**Growth Rates of Retail Market for Non-Decorative Paint and Coating segments in Thailand, (THB), 2011-2021F**

	CAGR 2011-2016	CAGR 2016-2021F
Wood Coatings	5.3%	6.1%
Waterproofing	5.1%	6.3%
Protective Coatings	8.4%	8.8%
Total	5.9%	6.8%

*Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan*  
*Note: All figures are rounded. Base year is 2016.*

**Price Band Analysis**

For the purpose of this report, paints and coatings sold in Thailand is defined to comprise three segments based on their prices. The segments are Premium (paints and coatings approximately priced above THB2,015.1 (USD57.1) per 5 gallons and Medium to Economy (paints and coatings approximately priced below THB2,015.1 (USD57.1) per 5 gallons.

With increased brand awareness and wider exposure to prevailing paint and coating technologies, affluent customers are demanding customizations and greater utility value from the paints and coatings used in their residences or office spaces. Features such as Ultra-violet (UV) protection, washable paints and low odor are gaining prominence when making a purchase decision. In addition to recommendations from painters on the value-addition provided by the premium paints and coatings, the manufacturers of these paints and coatings also engage in marketing activities promoting the unique-selling-proposition (USP) of these categories of paints and coatings. This market is also driven by an increase in condominium sales which are the typical retail residential end-consumers while the hospitality industry, comprising resorts, beach-villas, luxury hotels are also drivers of sales in this category.

For several large paint and coating manufacturers in Thailand, sales of the Premium category of paints and coatings in 2016 were recorded at approximately 34.0%-42.0% of their total sales. The highest proportion of sales was observed in the Medium to Economy category of paints and coatings amounting to approximately 52.0% -70.0% of total sales in 2016.

#### **2.1.10. Competitive Landscape Analysis**

The retail decorative paint and coating market in Thailand was dominated by TOA Paint (Thailand) Public Company Limited. Other leading companies having a significant presence in this market are the subsidiaries of larger foreign paint and coating manufacturers such as Beger Co., Ltd, Akzo Nobel (Netherlands), Jotun (Norway) and Nippon (Japan). A large number of other smaller Thailand based paint and coating manufacturers (both decorative and non-decorative) such as Thai D.N.T. Paint Co., Ltd, Eason Paint Public Co., Ltd, Sinclair Paint (Thailand) Co., Ltd, Hartford Paint Co., Ltd occupy rest of market. Most of these companies are inclined towards industrial paint and coating manufacturing and have less presence in the retail decorative paint and coating market.

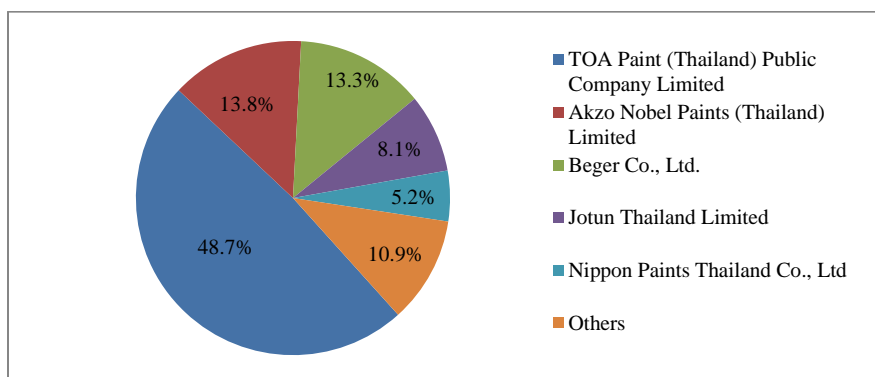
The retail non-decorative paint and coating market, on the other hand, has both domestic as well as international paint and coating manufacturers as market leaders in different categories. Beger Co., Ltd and TOA Paint (Thailand) Public Company Limited dominated the retail non-decorative wood coatings market in 2016 while Sika (Thailand) Ltd., a subsidiary of the Swiss based Sika AG, led the retail non-decorative waterproofing market. Jotun, closely followed by TOA Paint (Thailand) Public Company Limited were the market leaders for the retail non-decorative protective coatings market in Thailand in 2016. Other large Thailand based companies in the retail non-decorative paint and coating market are Precision Engineering Co., Ltd also known as Woodtect (for protective wood coating), and ParexGroup (Thailand) Co., Ltd (for waterproofing).

**The rest of the page is intentionally left blank**

### 2.1.11. Market Share Estimates and Profiles of Retail Decorative and Retail Non-Decorative Paint and Coating companies in Thailand

In 2016, TOA Paint (Thailand) Public Company Limited dominated the retail channel of decorative paint and coating market holding a share of approximately 48.7% of the total market. The other market participants were Akzo Nobel Paints (Thailand) Limited with a market share of approximately 13.8%, Beger Co., Ltd with a market share of approximately 13.3%, Jotun Thailand Limited (Jotun), the Thai subsidiary of the Norwegian chemicals company Jotun Group with a share of approximately 8.1% and Nippon Paints Thailand Co., Ltd. a subsidiary of Japan based Nippon Group, with a market share of approximately 5.2% in 2016 in Thailand's retail market for decorative paints and coatings.

**Estimated Retail Market Share of Decorative Paints and Coatings, (THB), Thailand, 2016**

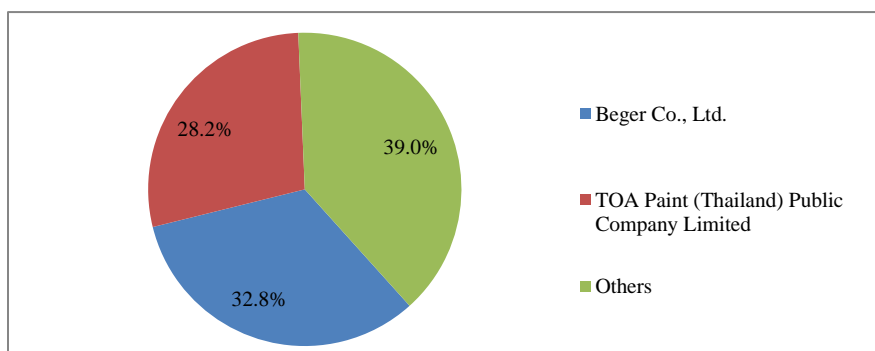


Source: Frost & Sullivan, primary interviews, desktop research and analysis

Note: Since companies' 2016 revenue numbers, including segmental breakdown was not readily available through published sources, approximate market shares have been arrived at through a combination of: (i) Interviews with experts which includes current and past employees of leading paint and coating companies, (ii) year-on-year growth trends, company reports and other presentation materials including but not limited to news articles, press releases, (iii) Frost & Sullivan's desktop research on sources including but not limited to databases of industry associations, trade bodies, government agencies etc.

The non-decorative retail wood coating market in Thailand, in 2016, was dominated by Beger Co., Ltd with a market share of approximately 32.8% closely followed by TOA Paint (Thailand) Public Company Limited with a market share of approximately 28.2%.

**Estimated Retail Market Share of Non-Decorative Wood Coatings, (THB), Thailand, 2016**



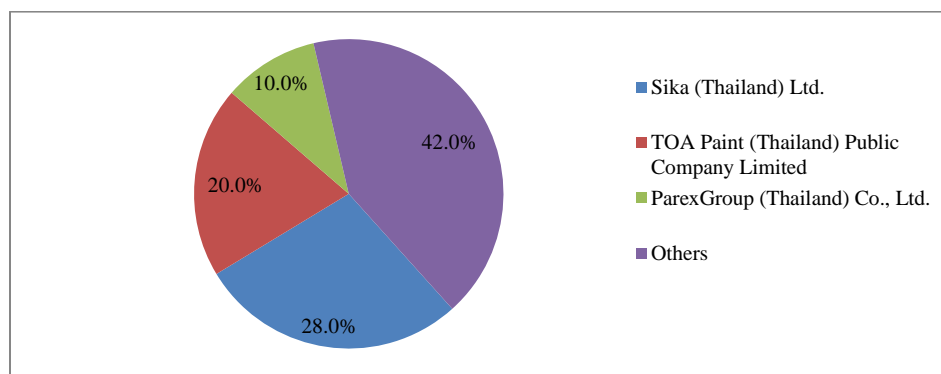
Source: Frost & Sullivan, primary interviews, desktop research and analysis

Note: Since companies' 2016 revenue numbers, including segmental breakdown was not readily available through published sources, approximate market shares have been arrived at through a combination of: (i) Interviews with experts which includes current and past employees of leading paint and coating companies, (ii) year-on-year growth trends, company reports and other presentation materials including but not limited to news articles, press releases, (iii) Frost & Sullivan's desktop research on sources including but not limited to databases of industry associations, trade bodies, government agencies etc.



Three major market participants for the Non-decorative retail waterproofing market in Thailand in 2016 were Sika (Thailand) Ltd. (Sika), TOA Paint (Thailand) Public Company Limited, and ParexGroup (Thailand) Co., Ltd (Parex). Sika was the market leader with a share of approximately 28.0% followed by TOA Paint (Thailand) Public Company Limited with a market share of approximately 20.0%. Parex had the third highest market share of approximately 10.0%.

#### Estimated Retail Market Share in Non-Decorative Waterproofing, (THB), Thailand, 2016

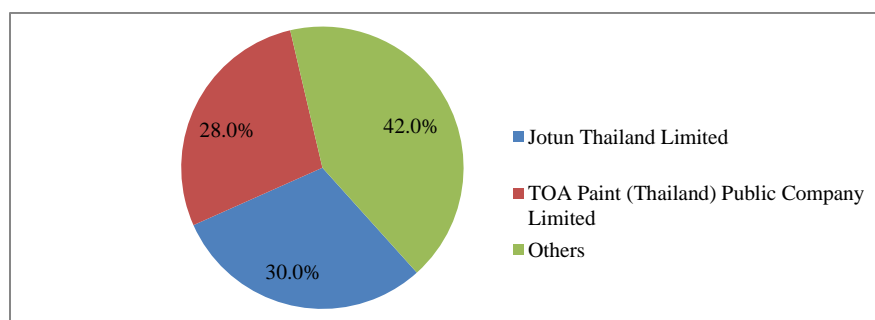


Source: Primary interviews, desktop research and Frost & Sullivan analysis

Note: Since companies' 2016 revenue numbers, including segmental breakdown was not readily available through published sources ,approximate market shares have been arrived at through a combination of: (i) Interviews with experts which includes current and past employees of leading paint and coating companies, (ii) year-on-year growth trends, company reports and other presentation materials including but not limited to news articles, press releases, (iii) Frost & Sullivan's desktop research on sources including but not limited to databases of industry associations, trade bodies, government agencies etc.

Jotun Thailand Limited and TOA Paint (Thailand) Public Company Limited jointly accounted for over 50.0% of the market for retail non-decorative protective coatings in Thailand in 2016. Jotun Thailand Limited was marginally ahead of TOA Paint (Thailand) Public Company Limited with approximately 30.0% market share while TOA Paint (Thailand) Public Company Limited was a close second at approximately 28.0% market share.

#### Estimated Retail Market Share of Non-Decorative Protective (Concrete and Metal) Coatings, (THB), Thailand, 2016



Source: Frost & Sullivan, primary interviews, desktop research and analysis

Note: Since companies' 2016 revenue numbers, including segmental breakdown was not readily available through published sources ,approximate market shares have been arrived at through a combination of: (i) Interviews with experts which includes current and past employees of leading paint and coating companies, (ii) year-on-year growth trends, company reports and other presentation materials including but not limited to news articles, press releases, (iii) Frost & Sullivan's desktop research on sources including but not limited to databases of industry associations, trade bodies, government agencies etc.

## **Profiles of Major Players**

### **TOA Paint (Thailand) Public Company Limited**

In 2016, TOA Paint (Thailand) Public Company Limited held the largest market share in the Thai retail decorative paint and coating market. Frost & Sullivan estimates that TOA Paint (Thailand) Public Company Limited held a share of approximately 48.7% of the retail market for decorative paints and coatings. In 2016, the company also held market shares of approximately 28.2%, 20.0% and 28.0% in the retail markets for non-decorative wood coatings, non-decorative waterproofing and non-decorative protective coatings, respectively. TOA Paint (Thailand) Public Company Limited started off as a small family business importing paints and coatings from Japan to Thailand in 1964. The business set up its first production plant in 1972 in Samrong and was incorporated as a Company in 1977. Currently, its main plant for emulsion and enamel paint and coating production is in Bangna, alongside 6 other production plants in Malaysia, Vietnam, Myanmar and Laos. Popular TOA Paint (Thailand) Public Company Limited's products include Supershield, Duraclean and Extrashield. In 2016, decorative paints and coatings accounted for 69.5% of the Company<sup>47</sup>'s sales while non-decorative paints and coatings accounted for approximately 27.4% of total sales. The former comprises 39 brands while the latter has 49 brands in the category. Majority of the Company's revenues (approximately 76.0%) come through retail sales channels, 13.4% are from modern trade distributors with the rest coming from projects and exports. TOA Paint (Thailand) Public Company Limited has a presence in 77 provinces, 780 districts, and at more than 5,300 retail dealers, out of which more than 4,000 have TOA Color World tinting machines installed. Apart from holding the largest market share in Thailand, the Company also has a 13.0% share of the AEC paint and coating market with production facilities in Vietnam, Laos, Cambodia, Myanmar, and Indonesia.

### **Akzo Nobel Paints (Thailand) Ltd**

Akzo Nobel Paints (Thailand) Ltd manufactures specialty chemicals, decorative paints and coatings, and performance coatings. The company had a market share of 13.8% in the retail market for decorative paints and coatings in Thailand in 2016. Formerly known as ICI Paints (Thailand) Ltd, the company changed its name to Akzo Nobel Paints (Thailand) Ltd in January 2009. Akzo Nobel is based in Pakkred Nonthaburi, Thailand and a subsidiary of Akzo Nobel NV, a multinational paint and coating company. To expand its capacity further, the company invested 30.0 million Euros in 2015-2016 to set up a new manufacturing facility in Chonburi with a capacity of producing 45,000 tons of paints and coatings per year.

### **Beger Co., Ltd**

In 2016, Beger Co., Ltd. held a market share of 13.3% in the Thai retail decorative paint and coating market. This was significantly lower than its competitor, TOA Paint (Thailand) Public Company Limited. The company, established in 1961 in Thailand, specializes in producing decorative paints and wood coatings, available through more than 4,000 dealers across the country. Among these dealers, there are more than 1,500 Beger Color Design Centers throughout Thailand offering high-technology tinting machines able to produce more than 10,000 shades. Beger uses modern systems to control the paint and coating production process and has a capacity of 40.0-50.0 million liters per year. It has also partnered with the Siam Cement Group to boost its sales channels. Approximately four-fifths of Beger's customers are from the retail sector, 10.0% are in projects, while the rest are international customers. The company is expected to profit from the AEC single market operations as it has a significant

---

<sup>47</sup>The Company' refers to TOA Paint (Thailand) Public Company Limited

international customer base. Popular Beger brands sold in Thailand include Beger Shield Diamond, Platinum, and Beger Super Deck.

### **Jotun Thailand Ltd**

Based in Amata Nakorn Industrial Estate in Eastern Thailand, Jotun Thailand Ltd, a multinational paint and coating company, held a market share of approximately 8.1% in retail decorative paint and coating and approximately 30.0% in retail non-decorative protective coatings industry Thailand in 2016. The company started its operations in Thailand in 1968 and produces four different categories of paints – marine coatings (to prevent corrosion in vessels), protective coatings (to protect steel and decoration of concrete) and interior and exterior decorative paints and coatings. Jotun employs around 400 people and produces approximately 22.0 million liters of liquid based paints and coatings and close to 9,000.0 tons of powdered coatings. The company has a strong presence in Singapore, Malaysia and Indonesia and is looking to establish a long-term presence in Thailand by building a warehouse in 2017<sup>48</sup>.

### **Sika (Thailand) Ltd.**

Sika (Thailand) Ltd., found in 1989, is based in Chonburi. The company manufactures and supplies paint and coating products (predominantly non-decorative paints and coatings) to the construction, marine and automotive industries. The company was the market leader in retail waterproofing in Thailand with approximately 28.0% share in 2016. Sika also produces non-decorative metal protective coatings, construction chemicals, adhesives and sealant products. The company has around 300 employees and two factories in Thailand. The one in Chonburi (total area of 17,000.0 square meters) has a 2,500 square meter production process area, a similar sized warehouse area and is used for manufacturing non-decorative paints and coatings. The other factory in Saraburi produces mortars and other cement based products.

**The rest of the page is intentionally left blank**

---

<sup>48</sup> <https://www.thebusinessyear.com/thailand-2017/painting-by-numbers/vip-interview>

### **2.1.12. Industry Prospects & Outlook**

Although Thailand experienced significant economic and political turmoil in the early part of this decade, the country is on a growth trajectory since 2016. The key factors driving this growth include a general optimism among Thais as evinced by increasing consumer confidence index against the backdrop of positive macro-economic factors such as an increasing GDP growth rate, growth in disposable income per capita, rise in private consumption and public expenditure, stable inflation rates and rising FDI reinforcing foreign investor confidence in the country's growth story. The construction industry, a key indicator of economic progress is also reaping the benefits resulting from the aforementioned macro-economic factors. Additionally, a combination of socio-economic factors such as an increase in nuclear households driven by a reduction in size of the family, rising urban households due to urbanization rates are promoting the growth of residential houses in the country.

The paint and coating industry is a direct beneficiary of the growth in construction and improvements in macro-economic indicators in the country. The retail paint and coating industry which is a significant channel of sales for the manufacturers is likely to see increased off-take as consumers become more aware of the choices offered to them. This segment is also expected to see moderate to high-growth in the forecast period, driven by an increased demand for new housing and repainting, government incentives and rising retail spending to name a few. Increasing disposable income is also expected to result in greater discretionary spend including a preference for premium paint and coating products which is likely to open up newer markets for existing paint and coating manufacturers.

Large manufacturers with expansive retail dealer reach are likely to be better equipped to capture changing consumer preferences and translate them into product features thereby enabling them to stay current in changing times. This in-turn will give them an edge over other manufacturers who may not have the ability to innovate and adapt. Additionally, growth in modern trade channel is likely to result in a greater DIY market as consumers have access to a wider variety of choices giving them greater control over decision making which was erstwhile the forte of the painters.

The non-decorative retail segment, in particular, is likely to be benefitted by a continued increase in tourism resulting in new demand and constant interior-upkeeps by the hospitality sector in the country. Repainting activities which is a key driver to the paint and coating sales is likely to continue to account for over three-fourths of the paint and coating industry in the forecast period. Renovation of buildings, both residential and commercial, repainting of vehicles using premium paints as a reflection of status symbol and maintenance activities in small factories are all expected to be key contributors of repainting demand in the forecast period driving the Thailand retail paint and coating industry back on its growth trajectory.

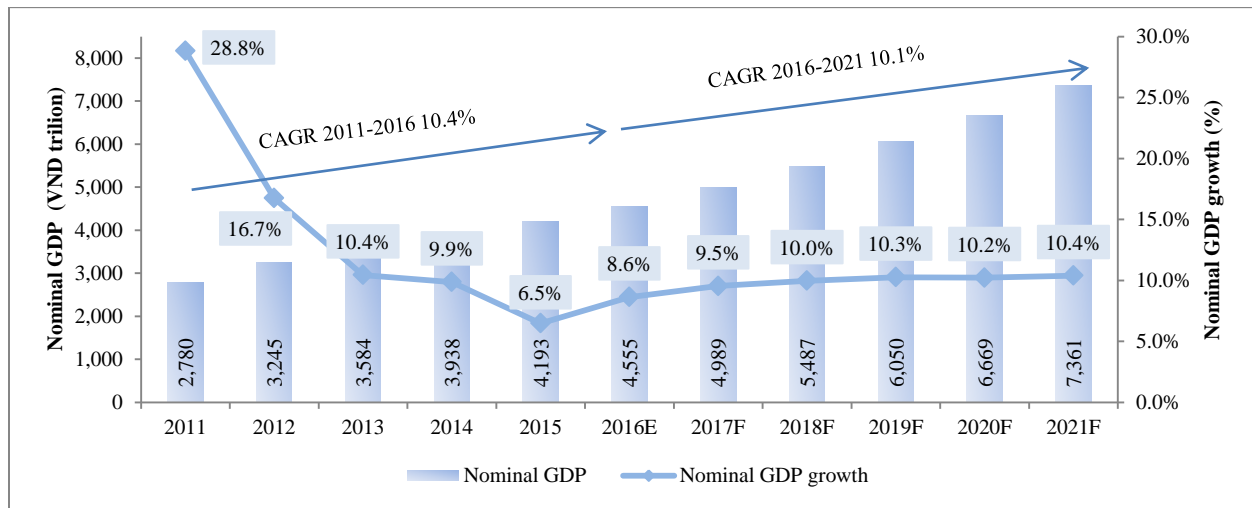
**The rest of the page is intentionally left blank**

### 3. THE PAINT AND COATING INDUSTRY IN VIETNAM

#### 3.1.1. Overview of the Paint and Coating industry in Vietnam

Following a plethora of political and economic reforms in 1986, economic growth and development have catapulted the country from being one of the poorest in the world to a thriving middle-income economy<sup>49</sup>. The country's GDP increased consistently at a CAGR of more than 6.0% between 1990 and 2015. Going forward, Vietnam's GDP is expected to register a CAGR of approximately 10.1% in during the forecast period of 2016 to 2021, from approximately VND4,554.9 trillion in 2016 to approximately VND7,361.2 trillion by 2021. Population growth in Vietnam is likely to record a CAGR of approximately 1.0% between 2016 and 2021. This is likely to result in a higher GDP per capita of approximately VND75.7 million by 2021 compared to its estimated value of VND49.2 million in 2016, boosting the standard of living for the population.

**Nominal GDP and Nominal GDP Growth Rates, (VND), Vietnam, 2011-2021F**



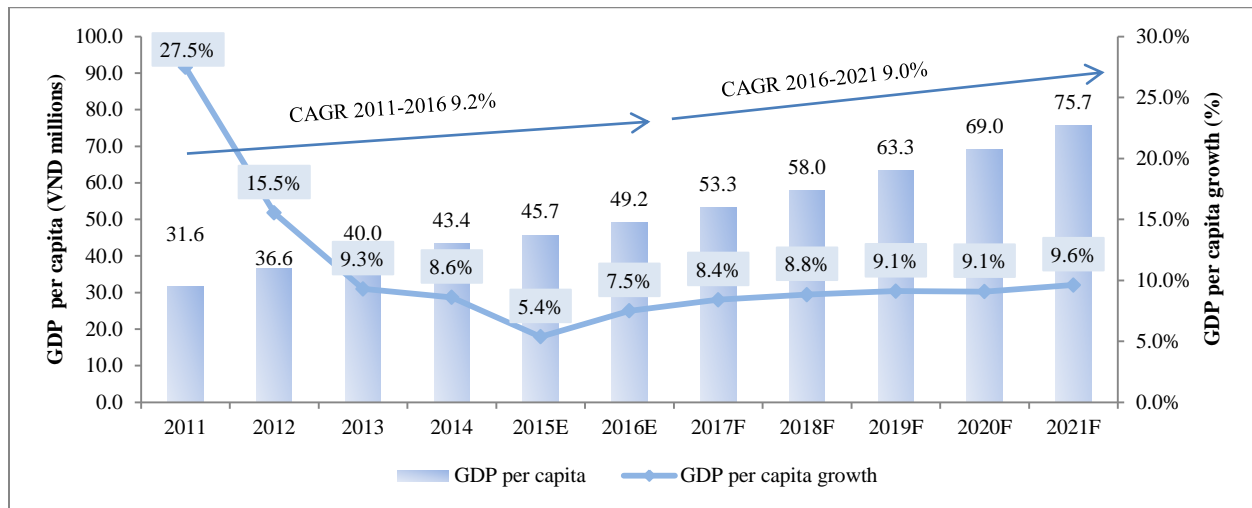
Source: World Economic Outlook Report, October 2016, compiled by Frost & Sullivan

Note: All figures are rounded. Base year is 2015.

The rest of the page is intentionally left blank

<sup>49</sup> Middle-income economies are those with a GNI per capita between USD1,026.0 and USD12,475.0, World Bank

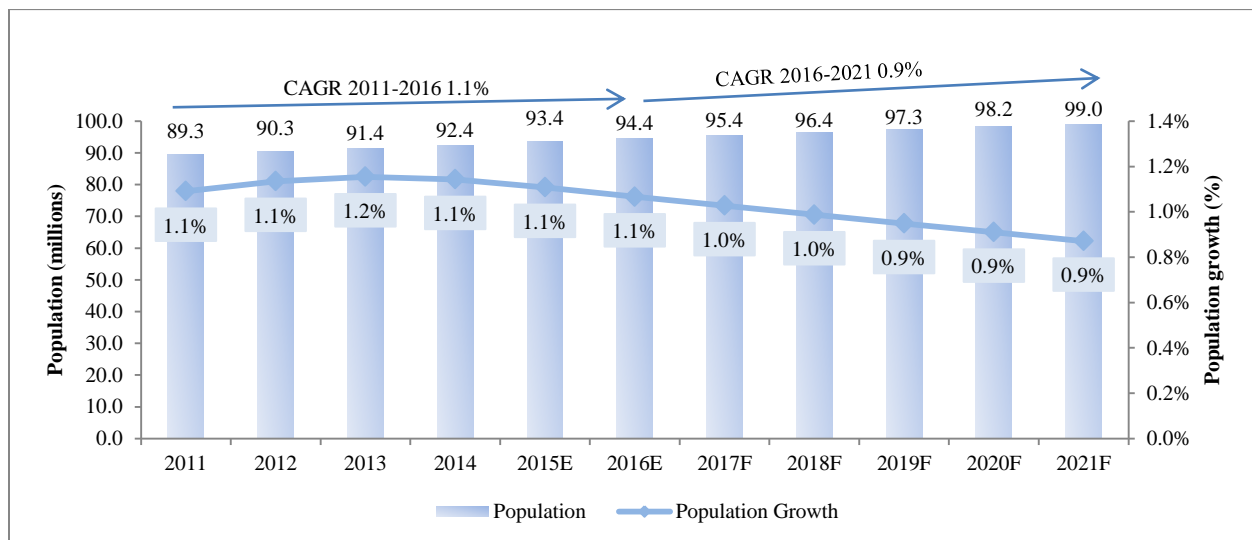
### GDP Per Capita and GDP Per Capita Growth Rates, (Nominal GDP), (VND), Vietnam, 2011-2021F



Source: World Economic Outlook Report, October 2016, compiled by Frost & Sullivan

Note: All figures are rounded. Base year is 2014 (Population actuals is 2014 while GDP actuals is 2015).

### Population and Population Growth Rates, Vietnam, 2011-2021F



Source: UN, World Population Prospects, 2015 revision, compiled by Frost & Sullivan

Note: All figures are rounded. Base year is 2014

The country's success lies in the successful implementation of reforms and long-term planning. Many social and economic indicators in Vietnam such as maternal mortality rates, access to basic education and infrastructure, availability of electricity, access to clean water, and sanitation have shown substantial improvements in the past three decades from 1986 to 2016. Over this period, Vietnam has achieved many of its Millennium Development Goals ahead of time. Economic integration with regional and global participants has also boosted trade and investment in the country. The government is currently following the Socio-Economic Development Strategy 2011-2020 which focuses on broad structural reforms such as infrastructural development, improvisation of market institutions and human resource development for modern industries, and innovation.

The fast-developing economy in Vietnam is a key driver of the paint and coating industry in the country. The purchasing power of the Vietnamese population continues to expand with rising income levels. Consumer spending in the retail industry is stimulating demand for various kinds of goods and services that have direct or indirect linkages with the paint and coating industry. Construction and housing sectors, for example, are the primary buyers of paints and coatings, especially decorative coatings. Growing domestic demand and export surplus in the furniture industry also support the growth of the paint and coating industry. Public infrastructure and shipbuilding are other sectors experiencing significant growth with the former securing loans and grants from international institutions such as the World Bank, Asian Development Bank, and foreign governments, and the latter gaining support from the government and foreign investors

### **Decorative Paint and Coating market**

According to Vietnam's General Statistics Office, revenue for the country's construction sector grew by approximately 8.8% to reach approximately VND456.0 trillion in the first six months of 2016 as compared to the same period in 2015<sup>50</sup>. The construction industry in Vietnam, especially in Ho Chi Minh City, is currently undergoing development of large-scale projects such as the Vinhomes Central Park, consisting of approximately 10,000 apartments - one of the largest projects by Vietnam based Vin Group. Other large residential housing projects in Ho Chi Minh City include a VND355.0 billion residential project in Nha Be Districts, a social housing project worth VND1.1 trillion in District 12, a housing and commercial complex project worth VND1.7 trillion and an apartment complex project worth VND869.0 billion in Phu Nhuan District and a low-rise housing project worth VND531.0 billion in District 9<sup>51</sup>. Most of these projects are expected to be completed by 2018. Many low-cost apartment projects are also under development in Ho Chi Minh City, with approximately 300 such apartments sold in District 9 in 2016 and another 1,000 up for sale in 2017. In 2016, in Ho Chi Minh City, approximately 31.0% of all apartments were categorized as high-end, 49.0% as medium-cost and rest 20.0% as low-cost<sup>52</sup>. Foreign developers such as Maeda Corporation and Kajima Corporation (Japan), Mirae Asset Securities Co. and Lotte Real Estate Co., Ltd. (South Korea), Frasers Centrepoint Ltd and Mapletree Investments Pte Ltd (Singapore), among others are also driving the growth in construction activities to tap into the rising income levels in the country, which has in turn led to greater demand for better quality homes and commercial buildings<sup>53</sup>. New housing laws introduced by the government aimed at reducing restrictions on foreign ownership of residential and commercial buildings are also spurring development activity. The potentially increasing expat home ownership and demand for better quality homes are likely to further the demand for expensive apartments with plush interiors. This is likely to result in a demand for premium paints and coatings in the forecast period.

<sup>50</sup> Asia Pacific Coatings Journal (APCJ), October, 2016

<sup>51</sup> <http://en.nhandan.com.vn/business/economy/item/4268902-ho-chi-minh-city-approves-five-new-housing-projects.html>

<sup>52</sup> <http://vneconomicstimes.com/article/property/thousands-of-cheap-apartments-in-ho-chi-minh-city-will-be-launched-in-2017>

<sup>53</sup> <http://hanoitimes.com.vn/economy/real-estate/2016/10/81e0a9db/foreign-real-estate-developers-keen-on-vietnamese-market/>

### **Non-Decorative Paint and Coating market**

Demand for non-decorative paints and coatings are likely to be driven by a number of factors. Firstly, the need for industrial space is growing as well with an increase in industrial parks, warehouses, and logistics facilities. Infrastructure is another area gaining momentum with investments in the energy and utilities and transport sectors, mainly focusing on improvements in roads, railways, and ports. The government of Vietnam has also entered into several PPPs with the goal of creating a less protectionist environment to attract more FDI into the country. From 2010 to 2020, a total investment of approximately USD200.0 billion is expected to be channeled toward infrastructure development in Vietnam presenting lucrative opportunities in the country's paint and coating industry.

A second source of demand comes from Vietnam's furniture sector, which comprises more than 2,500 domestic manufacturers and over 400 foreign enterprises. The country's wooden furniture exports earned more than USD1,550.7 million in 2014, ranking 6<sup>th</sup> in the world and 1<sup>st</sup> in SEA<sup>54</sup> for wooden furniture exports. Major destinations for Vietnamese wood furniture exports in 2015 included the US (58.1% of total wooden furniture exports), Japan (12.9%), UK (6.4%), China (5.1%) and South Korea (3.6%)<sup>55</sup>. Leading furniture retail dealers such as IKEA and SB Furniture also have a significant presence in the country.

Third, rapid infrastructural development in the country such as construction of roads, highways, bridges and the MRT<sup>56</sup> are expected to boost project sales of non-decorative paints and coatings.

#### **3.1.2. Value Chain and Distribution Chain Analysis**

Similar to the paint and coating industry in Thailand, raw materials for Vietnam's paint and coating industry are sourced domestically as well as through imports (eg, silica). Raw materials (resins) used by the paint and coating manufacturers in Vietnam are produced mostly by resin and other chemical manufactures, which are predominantly MNCs such as the Dow Chemical Co., and BASF.

The distribution and supply chain for non-decorative paints and coatings in Vietnam is mostly inclined towards direct sales from paint and coating manufacturers to industries and infrastructure development contractors. However, for many of the non-decorative paint and coating categories, especially waterproofings and wood coatings, retail sales constitutes a sizeable portion. Furniture industries and small scale industries are also some of the large customers for non-decorative paints and coatings. Large furniture manufacturers procure directly from the paint producers to gain competitive prices while smaller ones purchase through retail channels. Smaller infrastructure contractors and sub-contractors also use the retail channel. Real-estate developers and construction contractors buy most of their decorative paint and coating requirements from large retail dealers. Construction contractors are some of the biggest consumers of decorative paints and coatings in the country. In Vietnam, the construction industry is fragmented with contractor companies (roughly 40,000-60,000) of varying sizes.

Individual end users can purchase paints and coatings via retail, however, there are intermediaries in this channel. Due to the low labor costs for painting – USD10.0-USD15.0 per square meter in suburban areas and USD20.0-USD25.0 per square meter in city centers – end users prefer to employ painters, architects, and small contractors to manage the entire process of paint procurement to application. As the third-parties typically decide on paint and coating purchases, they can be considered as a major customer base for retail dealers. The absence of a DIY trend in the country is reflected from the low retail to individual sales across all categories of paints and coatings in Vietnam.

---

<sup>54</sup> This refers to the larger region of SEA and The Pacific

<sup>55</sup> United Nations Comtrade International Trade Statistics Database

<sup>56</sup> Refers to Metro Railway Trains

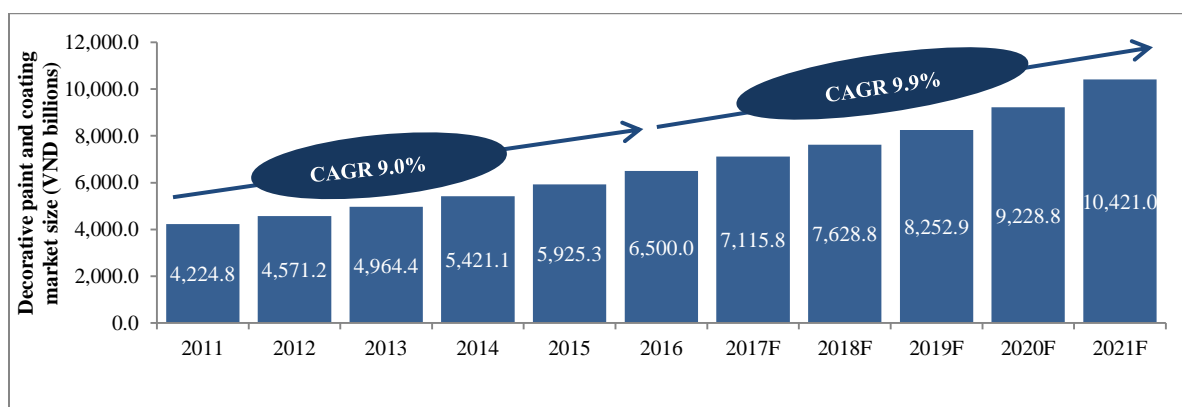


### 3.1.3. Market Sizing and Forecasts

Retail sales for decorative paints and coatings, which is approximately 50.0%-60.0% of total decorative paint and coating sales in Vietnam, are mainly driven by the construction and furniture industries alongside demand from public infrastructure developments. Among these, the construction industry is one of the primary consumers of decorative paints and coatings sold through retail channels.

The retail decorative paint and coating market grew at a CAGR of 9.0% between 2011 and 2016, growing from VND4,224.8 billion in 2011 to VND6,500.0 billion in 2016. The rapid growth over the years is likely to be attributed to heightened activity in the housing market as well as an improvement in overall economic conditions in the country. The retail market for decorative paints and coatings in Vietnam is forecast to record an even higher CAGR of approximately 9.9% over the forecast period of 2016 to 2021, growing from approximately VND 6,500.0 billion in 2016 to approximately VND10,421.0 billion by 2021 as positive macroeconomic conditions continue to drive construction activity in the country.

**Retail Market Size of Decorative Paints and Coatings in Vietnam, VND, 2011-2021F**



Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan

Note: All figures are rounded. Base year is 2016

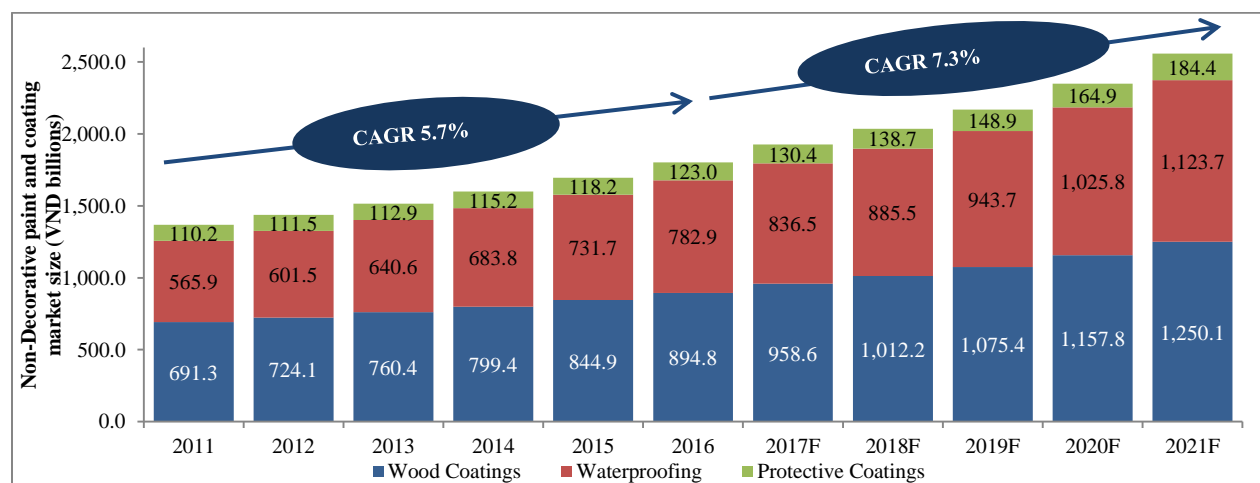
Wood coatings, among all the other categories of non-decorative paints and coatings had the highest sales through the retail channel (approximately 15.0%-20.0% of total wood coatings sales). Waterproofing also has a considerable portion (approximately 10.0%-20.0%) of sales through the retail channel. The major customers of waterproofing in retail sales channel are small time painters and contractors. Between 2011 and 2016, the retail non-decorative wood coatings market registered a CAGR of approximately 5.3%, growing from approximately VND691.3 billion in 2011 to approximately VND894.8 billion in 2016. The retail non-decorative waterproofing market posted a higher CAGR of 6.7%, growing from VND565.9 billion in 2011 to VND782.9 billion in 2016. Higher growth rates observed in the retail non-decorative waterproofing market as compared to the retail non-decorative wood coatings market can be attributed to increase in housing construction activities during 2011-2016.

A distinct feature of the non-decorative protective coatings industry in Vietnam is the very limited presence of retail dealers. Almost 95.0% of sales in the non-decorative protective coatings industry are project sales through channel partners who are not retail dealers and are considered as an extended arm of the paint and coating manufacturer. Significant product know-how and in-depth knowledge of specific end-user requirements are critical in this segment which a majority of retail dealers are currently lacking. The market had very negligible growth rate historically as paint and coating manufacturers had focused only on this channel to sell protective coatings products to the project owners. As such, the retail non-decorative protective coatings market recorded a CAGR of approximately 2.2 %, growing from approximately VND110.2 billion in 2011 to approximately VND123.0 billion in 2016.

Frost & Sullivan expects the retail non-decorative wood coatings market in Vietnam to expand at a higher (as compared to the historical period 2011-2016) CAGR of approximately 6.9%, from approximately VND894.8 billion in 2016 to approximately VND1,250.1 billion in 2021. The growth is likely to be driven by increased wood furniture

manufacturing activities as well as its domestic consumption. The retail waterproofing market is expected to record a higher CAGR of approximately 7.5%, as compared to the historical period 2011-2016, growing from approximately VND782.9 billion in 2016 to approximately VND1,123.7 billion by 2021. The higher growth rate in this market could be attributed to the increasing housing constructions and developments in the urban centers of the country, most of which are expected to get completed by 2019. Going forward, in the forecast period, the retail non-decorative protective coatings market is expected to register a CAGR of approximately 8.4%, growing from approximately VND123.0 billion in 2016 to approximately VND184.4 billion by 2021 mainly driven by increased focus on expanding retail dealer reach by educating them about technicalities and product-features.

**Retail Market Size of Non- Decorative Paints and Coatings in Vietnam, VND, 2011-2021F**



Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan

Note: All figures are rounded. Base year is 2016

**Growth Rates of Retail Market for Non-Decorative Paint and Coating segments in Vietnam, (VND), 2011-2021F**

	CAGR 2011-2016	CAGR 2016-2021F
Wood Coatings	5.3%	6.9%
Waterproofing	6.7%	7.9%
Protective Coatings	2.2%	8.4%
Total	5.7%	7.3%

Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan

Note: All figures are rounded. Base year is 2016.

### 3.1.4. Competitive Landscape Analysis

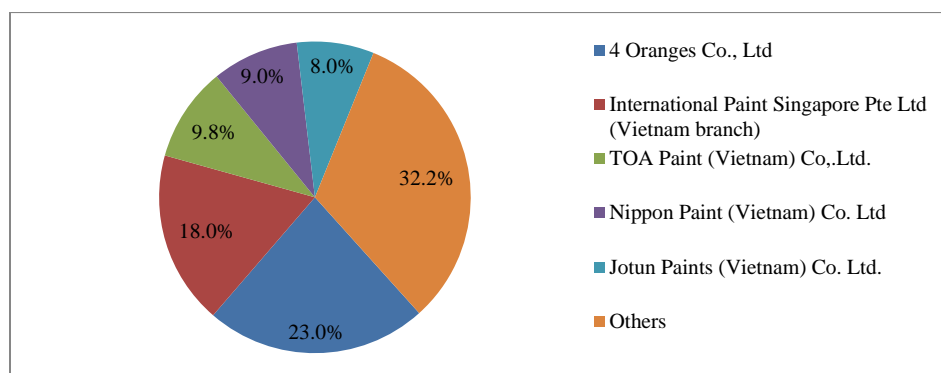
The retail participant dominating the decorative paint and coating market in Vietnam is 4 Oranges Co Ltd, a Vietnamese paint and coating manufacturer. Other major paint and coating manufacturers in the Vietnamese market are mostly subsidiaries of multinational companies such as Akzo Nobel (Netherlands), Nippon Group (Japan), Jotun Group (Norway) and TOA Paint (Thailand) Group. Some of these companies initially focused on importing paints and coatings to Vietnam, however, most have their production facilities in the country today (2017). There is a lack of large domestic paint and coating manufacturers in Vietnam. Several smaller domestic decorative paint and coating manufacturers in the country include Hempel Vietnam Co Ltd, Vietnam Shyange Paint Co Ltd, and Hai Phong Paint Company, mostly specializing in non-decorative paints and coatings.

The retail non-decorative wood coating market in Vietnam has two large domestic companies namely OSeven Corporation and Adora Paints Vietnam Co., Ltd (Adora Paints). Kova Group Ltd (Kova) is one of the largest domestic participants in the retail non-decorative waterproofing market. However, there are no larger domestic paint and coating manufacturers in the retail non-decorative protective coatings market. Local subsidiaries of Jotun Group (Japan) and Akzo Nobel (Netherlands) dominate this segment. The Vietnamese subsidiary of Akzo Nobel, International Paint Singapore Pte Ltd, has a significant presence in all three retail non-decorative paint and coating markets (wood coating, waterproofing, and protective coating), while Jotun Paints (Vietnam) Co Ltd is a key market participant in the retail non-decorative protective coating and waterproofing markets. Sika Ltd (Vietnam), a subsidiary of Sika Group (Switzerland) is a major market participant in the retail non-decorative waterproofing market. Smaller domestic non-decorative paint and coating manufacturers include Dong Tam Co Ltd and Tison Paint Co Ltd.

### 3.1.5. Market Share Estimates and Profiles of Retail Decorative and Non-Decorative Paint and Coating companies in Vietnam

In 2016, the retail market for decorative paints and coatings in Vietnam was mainly dominated by 4 Oranges Co Ltd (4 Oranges) and International Paint Singapore Pte Ltd (Akzo Nobel) with a combined share of approximately 41.0%. The former held a market share of approximately 23.0% while the latter had approximately 18.0% share in the retail market for decorative paints and coatings. TOA Paint (Vietnam) Co., Ltd with approximately 9.8% market share was closely followed by Nippon Paint (Vietnam) Ltd (Nippon Paint), a subsidiary of Japan-based Nippon Group at approximately 9.0%. Jotun Paints (Vietnam) Co., Ltd (Jotun Paint) was also among the top five decorative paint and coating manufacturers for the retail market with a share of approximately 8.0% in 2016.

**Estimated Retail Market Share of Decorative Paints and Coatings, VND, Vietnam, 2016**

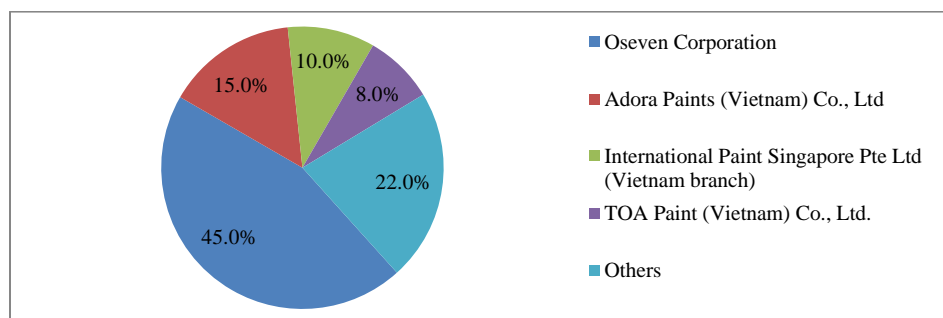


Source: Frost & Sullivan, primary interviews, desktop research and analysis

Note: Since companies' 2016 revenue numbers, including segmental breakdown was not readily available through published sources, approximate market shares have been arrived at through a combination of: (i) Interviews with experts which includes current and past employees of leading paint and coating companies, (ii) year-on-year growth trends, company reports and other presentation materials including but not limited to news articles, press releases, (iii) Frost & Sullivan's desktop research on sources including but not limited to databases of industry associations, trade bodies, government agencies etc.

Oseven Corporation, a Vietnam-based paint and coating manufacturer, had the highest share of approximately 45.0% followed by Adora Paints (Vietnam) Co., Ltd (Adora Paints) with approximately 15.0%. Other large players in the retail market for non-decorative wood coatings in Vietnam in 2016 were International Paint Singapore Pte Ltd (Vietnam branch) with a retail market share of approximately 10.0%, and TOA Paint (Vietnam) Co., Ltd with approximately 8.0% share of the total wood coatings market.

#### Estimated Retail Market Share of Non-Decorative Wood Coatings, VND, Vietnam, 2016

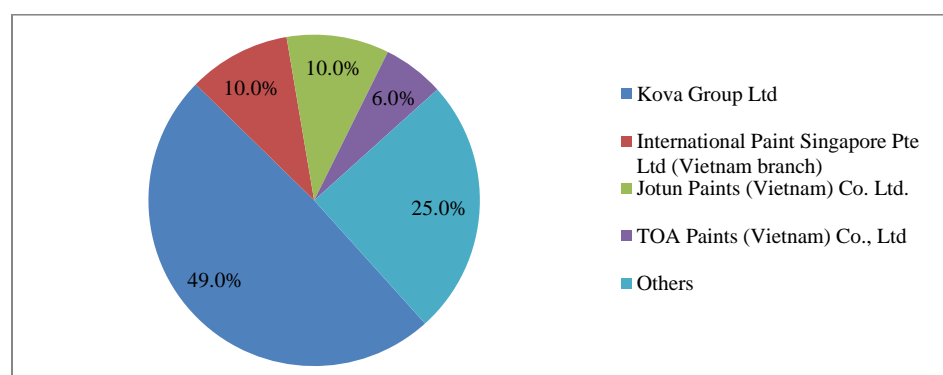


Source: Frost & Sullivan, primary interviews, desktop research and analysis

Note: Since companies' 2016 revenue numbers, including segmental breakdown was not readily available through published sources, approximate market shares have been arrived at through a combination of: (i) Interviews with experts which includes current and past employees of leading paint and coating companies, (ii) year-on-year growth trends, company reports and other presentation materials including but not limited to news articles, press releases, (iii) Frost & Sullivan's desktop research on sources including but not limited to databases of industry associations, trade bodies, government agencies etc.

The retail market for non-decorative waterproofing in Vietnam, in 2016, was largely dominated by Kova Group Ltd with an approximately 49.0% market share. International Paint Singapore Pte Ltd (Vietnam Branch), Jotun Paints (Vietnam) Co., Ltd at 10.0% market shares each and TOA Paints (Vietnam) Co., Ltd with approximately 6.0% was the other participants in this segment in 2016.

#### Estimated Retail Market Share of Non-Decorative Waterproofing Coatings, VND, Vietnam, 2016

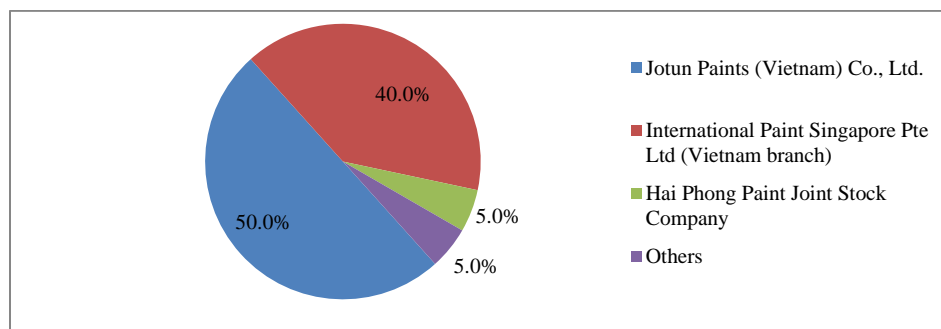


Source: Frost & Sullivan, primary interviews, desktop research and analysis

Note: Since companies' 2016 revenue numbers, including segmental breakdown was not readily available through published sources, approximate market shares have been arrived at through a combination of: (i) Interviews with experts which includes current and past employees of leading paint and coating companies, (ii) year-on-year growth trends, company reports and other presentation materials including but not limited to news articles, press releases, (iii) Frost & Sullivan's desktop research on sources including but not limited to databases of industry associations, trade bodies, government agencies etc.

The retail market for non-decorative protective coatings in Vietnam, in 2016, was jointly dominated by Jotun Paints (Vietnam) Co., Ltd with approximately 50.0% market share and International Paint Singapore Pte Ltd (Vietnam branch) or Akzo Nobel (Vietnam) with an approximate share of 40.0%. Hai Phong Paint Joint Stock Company was also a market participant with a negligible share of approximately 5.0% of this market in 2016.

#### **Estimated Retail Market Share of Non-Decorative Protective (Concrete and Metal) Coatings, VND, Vietnam, 2016**



*Source: Frost & Sullivan, primary interviews, desktop research and analysis*

*Note: Since companies' 2016 revenue numbers, including segmental breakdown was not readily available through published sources, approximate market shares have been arrived at through a combination of: (i) Interviews with experts which includes current and past employees of leading paint and coating companies, (ii) year-on-year growth trends, company reports and other presentation materials including but not limited to news articles, press releases, (iii) Frost & Sullivan's desktop research on sources including but not limited to databases of industry associations, trade bodies, government agencies etc.*

### **Profiles of Major Players**

#### **4 Oranges**

Wholly owned by the Asia Leader International Investment Corporation, 4 Oranges entered the paint and coating industry of Vietnam in 2004. The company currently has four production lines equipped with modern technologies and a production capacity of 100 million liters of paint and 60,000.0 tons of plaster per year. Suppliers of raw materials to 4 Oranges are leading global chemical corporations such as Degussa (US), ELIOKEM (France), Dow Chemical (US), Rohm & Haas (USA), Cray Valley (Malaysia) and Nuplex (Australia). To provide high-quality products to customers, the company invests in Research and Development and purchases inventions and licenses from the European and American markets. Major products of 4 Oranges' are MYKOLOR, SPEC, BOSS and EXPO. In 2016, 4 Oranges had the highest share of approximately 23.0% in the Vietnamese retail market for decorative paints and coatings.

#### **Akzo Nobel**

Akzo Nobel stood second to 4 Oranges in terms of share of the retail market for decorative paints and coatings in 2016. The company had a share of approximately 18.0% of the retail market for decorative paints and coatings in Vietnam. Akzo Nobel entered Vietnam in 1992 with its first plant in Ho Chi Minh City. It invested in another plant in the expanding industrial areas outside Ho Chi Minh City in 2004 to boost the production of decorative paints and coatings. The company also runs a production line for manufacturing powdered coatings. Dulux and Maxilite are major brands under Akzo Nobel, were the first products in Vietnam to obtain the certification of compliance with the nation's technical regulations by the Quality Assurance and Testing Center 3 (QUATEST 3), a science and technology based center of the Directorate for Standards, Metrology and Quality (STAMEQ) under the Ministry of

Science and Technology (MOST). The Dulux brand was also voted as the No 1 trustworthy paints brand over five consecutive from 2009 to 2013.

#### **TOA Paint (Vietnam) Co., Ltd**

TOA Paint (Vietnam) Co., Ltd is a subsidiary of the much larger TOA Paint (Thailand) Public Company Limited. In early 1990s, TOA Paint (Thailand) Public Company Limited used to import paints and coatings to Vietnam until TOA Paint (Vietnam) Co., Ltd was incorporated in Vietnam in 1995. The company's first factory, at Tan Dinh Industrial Park, became operational in 1998. Another factory producing decorative paints and coatings, industrial coatings, wood coatings and construction chemicals, was set up in 2006 at the Tan Dong Hiep A Industrial Park, Di An Town. In 2016, TOA Paint (Vietnam) Co., Ltd held a share of approximately 9.8% of the retail market for decorative paints and coatings in Vietnam.

#### **Nippon Paint**

Nippon Paint is a subsidiary of the much larger Japanese Nippon Paint Holdings held a market share of approximately 9.0% in the retail market for decorative paints and coatings in Vietnam. Established in Vietnam in 1994, Nippon is based in the Industrial Zone of Bien Hoa as well as in seven other locations across the country. It also has Nippon Paint dealers throughout the country across 66 provinces and cities. Momento and Vutex are the major brands of Nippon Paint in the decorative paint and coating category. The company also manufactures industrial paints under brands such as Tilac, Bilac, Nippon PU and EP4 for the heavy industry. As the company has access to technologies and management practices of its parent company in Japan, its products are considered to be optimal choices in the industry including the automobiles, marine and house decoration segments.

#### **Jotun Paint**

Jotun Paint's global operations are present in seven regions across the globe such as North America, Europe, Middle East and Asia Pacific. The company produces decorative as well as non-decorative paints and coatings. The Jotun Group has 37 production facilities and 63 offices present in more than 100 countries. In Vietnam, the company is in Ho Chi Minh City. It is a major producer of interior and exteriors paints and coatings, protective metal coatings and wood coatings. Jotun Paint had a market share of approximately 8.0% in the Vietnamese retail market for decorative paints and coatings in 2016. Established in Vietnam in 1994, Jotun set up its first production facility and started operations in 1998. Currently Jotun Paint Vietnam has a production capacity of more than 25.0 million liters per year. The company is licensed for operation in Vietnam for 30 years ending in 2026 and thus has a long-term development strategy.

#### **Kova Group Ltd**

Kova Group Ltd dominated the retail market for non-decorative waterproofing in Vietnam in 2016. The company launched its first waterproofing product lines in 1996 with outstanding features in waterproofing new, old as well as decayed walls. The first Kova Paint Co., Ltd (Kova) factory was established in My Dinh Industrial zone, Tu Liem district, Hanoi, in 1998. Another factory was set up in 2005 at Hanoi. In 2007 Kova also entered the non-decorative protective coatings market with its metallic paint and coating products and in 2008 the company expanded to Cambodia. Currently the Kova Group comprises 9 member companies and 5 high-capacity paint and coating manufacturing plants; four are located in Vietnam and one in Cambodia. In 2016, researchers from Kova Group's facilities invented bulletproof paints and coatings produced from rice husks.

### **3.1.6. Industry Prospects & Outlook**

Vietnam has been on a growth trajectory since 2011 and is expected to continue the momentum in the forecast period, mainly driven by stimulus from the government's long term growth strategies. The rapid growth of the country's economy, coupled with the young and large population is also likely to be a key growth driver in the forecast period.

Growth in the retail paints and coatings post 2017 is likely to be driven by large housing construction projects in urban areas of Vietnam. Increase in the number of foreign developers in this sector and rising income levels of the population are gradually increasing demand for better quality housing. This in turn is expected to boost the sales of decorative paints and coatings and shift consumer preferences towards premium category products.

Demand for non-decorative paints and coatings is also expected to increase as a result of increased FDI inflow into the country. Growth in Vietnam's furniture industry is likely to drive growth in the retail market for non-decorative wood coatings, while increased public investments towards infrastructure projects related to transport is expected to lead the growth in the retail market for non-decorative waterproofing. The retail market for non-decorative protective coatings is relatively less prominent in Vietnam. However, it is expected to grow at much higher rates in the forecast period as a result of foreign and domestic players increasing their retail distribution networks. Digitization is set to stimulate growth in this industry as the country's young demographic increasingly leverages technology to make purchase decisions including choosing the paint texture and special effects for their house interiors. Growing awareness among customers about the origins of products, safety of ingredients, and their environmental friendliness is also likely to influence the paint and coating industry in Vietnam. Companies that are able to cater to the evolving tastes and preferences of retail and B2B consumers are likely to reap significant benefits in the forecast period.

**The rest of the page is intentionally left blank**

## 4. BRIEF OVERVIEW OF THE PAINT AND COATING INDUSTRY IN CAMBODIA, LAOS, MYANMAR, MALAYSIA, AND INDONESIA

### 4.1.1. Overview of the Paint and Coating industry

The paint and coating industries in Malaysia, Indonesia, Myanmar, Cambodia and Laos are expected to fare well due to an impressive growth in the construction industry, a result of the development of residential and commercial buildings as well as infrastructure. These countries are experiencing improved standards of living, increasing income levels, and rising demand, while labor and production costs remain relatively low. Growth in the paint and coating industry has been supported by an increased focus on expanding dealer network, and product innovation at the same time.

**Nominal GDP Growth Rates in Select Southeast Asian Countries, (USD), 2011-2021F**

	<b>CAGR 2011-2016E</b>	<b>CAGR 2016E-2021F</b>
<b>Indonesia</b>	1.1%	8.4%
<b>Malaysia</b>	0.3%	11.7%
<b>Myanmar</b>	2.6%	10.7%
<b>Cambodia</b>	8.6%	8.5%
<b>Laos</b>	11.3%	7.6%

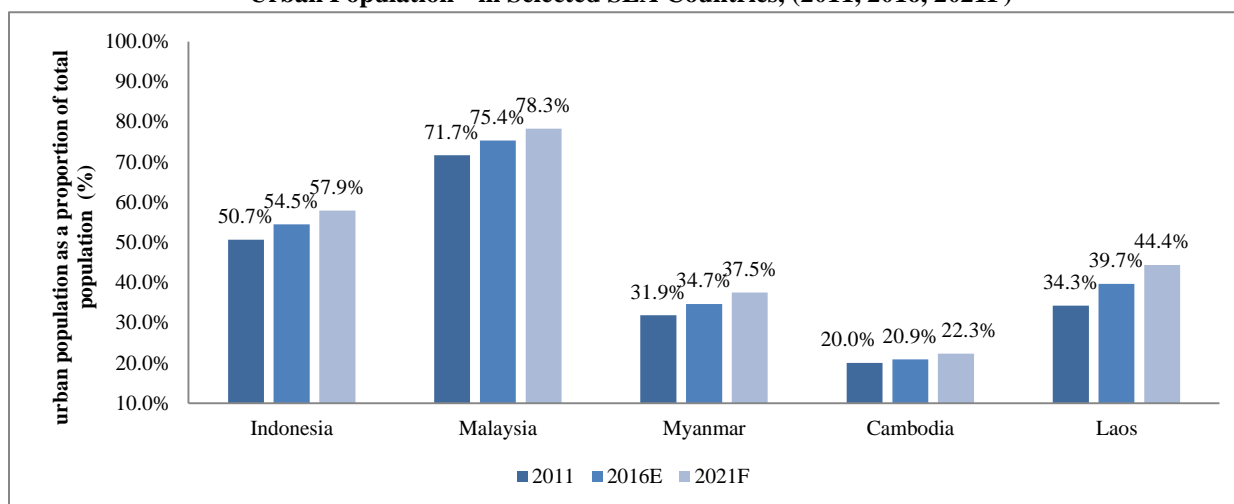
*Source: IMF, World Economic Outlook Report, October 2016, compiled by Frost & Sullivan*

*Note: All figures are rounded. Base year is 201 for Indonesia, Malaysia and Myanmar, and 2013 for Cambodia and Laos.*

**The rest of the page is intentionally left blank**



**Urban Population<sup>57</sup> in Selected SEA Countries, (2011, 2016, 2021F)**



Source: World Urbanization Prospects and World Population Prospects, United Nations, compiled by Frost & Sullivan

Note: All figures are rounded.

**Population in Select Southeast Asian Countries, (millions), 2011-2021F**

	2011	2016E	2021F
<b>Indonesia</b>	244.8	260.6	274.5
<b>Malaysia</b>	28.6	31.2	32.8
<b>Myanmar</b>	52.1	54.4	56.7
<b>Cambodia</b>	14.6	16.1	17.0
<b>Laos</b>	6.4	6.9	7.5

Source: UN, World Population Prospects, 2015 revision, compiled by Frost & Sullivan

Note: All figures are rounded. Base year is 2014.

<sup>57</sup> As a percentage of total population

## **Indonesia**

Indonesia's paint and coating industry is driven by the large population, increasing urbanization, and the rising disposable income. Indonesia's GDP is forecast to record at a CAGR of approximately 8.4% between 2016 and 2021. The urban population as a percentage of total population in Indonesia is expected to increase from 54.5% in 2016 to reach approximately 57.9% by 2021 driving the demand for housing and growth of the infrastructure and construction industry. This in turn is likely to stimulate demand for paints and coatings in Indonesia. In 2015, the Indonesian government announced one million new housing units for low income earners and allocated USD782.0 million for the realization of the program. The Indonesian government's ambitious target of building 10.0 million new houses by 2019 to provide adequate housing facilities to low income citizens is also expected to create significant demand for paints and coatings in the forecast period. Government plans for increased spending in infrastructure are also expected to have an impact on the paint and coating industry. The Indonesian president is currently pursuing an ambitious five-year billion-dollar plan to upgrade roads, ports, water and power plants. Indonesia is the second largest car manufacturer in Asia after Thailand with the production of passenger vehicles forecast to reach approximately 2.6 million by 2020 resulting in growth for the non-decorative paint and coating market. The decorative paint and coating segment holds a majority of the Indonesian paint and coating industry. Growing consumption is set to continue in line with the growth of residential and commercial properties as well as large infrastructure projects (related to rail, road, power, and port).

## **Malaysia**

Malaysia's paint and coating industry is relatively mature as compared to its counterpart in Indonesia. Malaysia's GDP is expected to register a CAGR of approximately 11.7% between 2016 and 2021. The urban population as a percentage of total population is expected to increase marginally from approximately 75.4% in 2016 to approximately 78.3% by 2021, driving the growth of the construction industry and boosting the demand for paints and coatings in the country. The Malaysian government, with a view to providing people with the opportunity to own their homes, is expected to complete 10.0 million new housing units under the 1Malaysia Housing Projects by 2018 spurring the demand for decorative paints and coatings in the forecast period. The Malaysian government also plans to develop the country's infrastructure under the 11th Malaysia Plan 2016–2020. New investments in the residential and non-residential construction sector are likely to enable the Malaysian construction industry to contribute approximately 5.5% to the Malaysian GDP by 2020 with these investments positively impacting the paint and coating industry in the country. Decorative paint and coating is the prominent segment in the Malaysian paint and coating industry. To promote sustainability and environment friendly practices in the Malaysian construction industry, the Malaysian Institute of Architects introduced the Green Building Index (GBI), appealing to owners seeking "green building" certification through the use of environmentally friendly (low VOC) paints and coatings. Another scheme, the SIRIM Eco-Labeling, recognized as the National Eco-labeling Program of Malaysia allows paint and coating manufacturers to position their product as environment friendly, providing an edge over other similar paint and coating products in a consumer market that is becoming increasingly environmentally-conscious. The Malaysian paint and coating industry is concentrated, with a total of approximately 70.0%-80.0% market share accounted for by top three players. Additionally, presence of paint and coating associations in Malaysia and Indonesia provides a platform for paint and coating manufacturers to discuss current issues and understand the collective needs of the industry whereas such industry associations are yet to be established in the developing countries namely Myanmar, Cambodia and Laos.

## **Myanmar**

Myanmar's GDP<sup>58</sup> is set to register a CAGR of approximately 10.7% between 2016 and 2021. GDP growth was 7.3% during 2010-2014 owing to the various reform programs, with a focus on economic expansion. Urban population as a percentage of total population was approximately 34.7% in 2016 and is expected to reach approximately 37.5% in 2021. In 2016, Myanmar's government announced plans to build 18.0 million<sup>59</sup> affordable housing units throughout the country in the forecast period. Housing initiatives coupled with infrastructure projects such as Hanthawaddy International Airport are expected to drive demand for paints and coatings in Myanmar. The decorative paint and coating market in Myanmar is still at a developing stage with major cities such as Yangon and Mandalay driving demand for several building projects. The paint and coating industry in Myanmar is relatively consolidated<sup>60</sup> with United Paints Group Co., Ltd. catering to the majority of the paint and coating needs in the country.

## **Cambodia**

Cambodia's GDP<sup>61</sup> is expected to register a CAGR of approximately 8.5% between 2016 and 2021. Cambodia's urban population as a percentage of total population is expected to increase from approximately 20.9% in 2016 to approximately 22.3% by 2021. In January 2017, Cambodia signed to the Sustainable Development Investment Partnership (SDIP)<sup>62</sup>, to unlock the funding of infrastructure projects through PPPs. According to the Cambodian construction investment data, there are more than 2,500 construction projects in progress with a total estimated<sup>63</sup> construction cost of approximately USD5,500.0 million driving the demand for paints and coatings in the country. The Ministry of Land Management, Urban Planning and Construction, suggests that the demand for housing in Cambodia is likely to reach approximately one million<sup>64</sup> units by 2030 which in turn is likely to result in a heightened demand for paints and coatings.

## **Laos**

Laos' GDP<sup>65</sup> recorded a CAGR of approximately 11.3% between 2011 and 2016. However, the CAGR between 2016 and 2021 is likely to decline to 7.6% as the IMF predicts the country's economy in the short-term (2016-2018) to be affected by external shocks, notably the regional growth slowdown and deterioration in trade and capital inflows. The urban population as a proportion of total population for Laos is set to increase from approximately 39.7% in 2016 to approximately 44.4% by 2021. Going forward, although the country's GDP growth rate is expected to register a marginal slowdown, Frost & Sullivan believes that on-going economic activities are likely to result in higher disposable incomes in the forecast period. The rise in urban population as a proportion of total population could also stimulate demand for residential structures in major cities of Laos, in turn, fueling demand for decorative paints and coatings in the forecast period.

---

<sup>58</sup> [http://www.imf.org/external/datamapper/NGDP\\_RPCH@WEO/OEMDC/ADVEC/WEOWORLD/MMR](http://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD/MMR)

<sup>59</sup> <http://www.mmtimes.com/index.php/national-news/nay-pyi-taw/20732-govt-plans-to-build-180-000-affordable-housing-units.html>

<sup>60</sup> <https://jessicamudditt.com/2014/11/28/paint-coatings-industry-myanmar-2014/>

<sup>61</sup> [http://www.imf.org/external/datamapper/NGDP\\_RPCH@WEO/OEMDC/ADVEC/WEOWORLD/KHM](http://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD/KHM)

<sup>62</sup> <http://www.phnompenhpost.com/business/cambodia-joins-global-infrastructure-fund-davos>

<sup>63</sup> <http://www.cca.org.kh/>

<sup>64</sup> <http://www.akp.gov.kh/?p=69417>

<sup>65</sup> [http://www.imf.org/external/datamapper/NGDP\\_RPCH@WEO/OEMDC/ADVEC/WEOWORLD/LAO](http://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD/LAO)

#### 4.1.1.1. Value Chain and Distribution Chain Analysis

The value chain of the paint and coating industry in Indonesia and Malaysia is similar to that of Vietnam and Thailand with raw materials (resins) for the industry being sourced domestically as well as through imports. Raw material providers are mainly multinational companies such as BASF and Dow Chemical. The distribution of paint and coating products in Indonesia and Malaysia is primarily through retail and project sales; retail sales also include point-of-sale (POS) tinting machines. Paint and coating manufacturers also sell directly to construction companies and project developers who are end-users of paints; whereas, under retail sales, distributors act as intermediaries that distribute the paint and coating to retail stores that sell to end-users/consumers.

In Indonesia and Malaysia, distributors have excellent reach to retail dealers and well-established sales networks across the country. Majority<sup>66</sup> of sales happen through retail channel in both countries while sales through the direct Business-to-Business (B2B) channel is less prominent. Retail sales through POS tinting machines installed at retail stores is a new sales trend primarily practiced in major cities of Indonesia and Malaysia. Several large retail dealers (e.g., Mitra10, Depo Bangunan), as well as major contractors in Indonesia and Malaysia are also focussing on building strong relationships with paint and coating manufacturers as it helps them to make direct purchases at special prices from producers based on their existing relationships with the manufacturer.

In the value chain of the paint and coating industry in Myanmar, Cambodia and Laos, the majority of raw materials are imported as companies such as BASF have only representative offices<sup>67</sup> in these regions and a lack of domestic raw material (resin) producers. The main distribution channel in these countries involves the goods moving from the manufacturer to the distributor and retail dealers, before reaching consumers which comprises of individuals, project owners, contractors and sub-contractors. Big project owners and large contractors generally prefer to purchase directly from manufacturers as they can secure discounts by placing bulk orders. Individual consumers buy paints from retail dealers only. In Myanmar<sup>68</sup>, Cambodia<sup>69</sup> and Laos, the domestic as well as foreign paint and coating manufacturers have a fairly established distribution network. However, most still lag with respect to retail dealer's reach and an established sales network for paint and coating across the country. The demand for paints and coatings in Myanmar, Cambodia and Laos is still in its infant stage and as the market size for paint and coating industry in these countries increases, the accompanying logistics capabilities are expected to improve.

**The rest of the page is intentionally left blank**

---

<sup>66</sup> <http://swa.co.id/swa/trends/marketing/nippon-paint-hadirkan-tren-warna-asia>

<sup>67</sup> <https://www.basf.com/hk/en/company/news-and-media/news-releases/th/2015/09/new-office-myanmar.html>

<sup>68</sup> <http://www.upgpaint.com/index.php/company-profile>

<sup>69</sup> <http://campaint-ccsc.com.kh/contact-us/?lang=en>

#### **4.1.2. Market Sizing and Forecasts**

The decorative paint and coating markets in Malaysia, Indonesia, Myanmar, Cambodia and Laos show a positive outlook on the backdrop of increasing urbanization, economic reforms, spending towards infrastructure, rising disposable income, among many others. The decorative paint and coating market for these selected SEA countries combined is expected to grow at a CAGR of approximately 7.7% between 2016 and 2021, growing from approximately USD1,224.0 million in 2016 to approximately USD1,772.4 million in 2021.

##### **Indonesia**

Urbanization and rising disposable incomes are changing consumer preferences towards high-quality finishes. These are some of the major factors driving growth in the Indonesian paint and coating industry. In 2016, the retail market for decorative paints and coatings in Indonesia was valued at approximately USD785.3 million. Historically, the market has grown at a CAGR of approximately 7.2% between 2011 and 2016 and is expected to reach USD1,206.3 million by 2021 registering a CAGR of approximately 9.0% over the period 2016 to 2021. Between 2011 and 2016, large foreign companies, including Davies Paints from the Philippines and the Thailand-based TOA Paint (Thailand) Public Company Limited entered the paint and coating market in Indonesia, signaling promising times for the industry in the forecast period.

##### **Malaysia**

The retail market for decorative paints and coatings in Malaysia was approximately USD356.5 million in 2016 recording a CAGR of 5.0% over 2011-2016 mainly driven by an economic recovery<sup>70</sup>, urbanization and increased number of new housing project completions. However, the Malaysian paint and coating industry experienced slower growth in the year 2015 (compared to the other years between 2011 and 2016) due to challenges faced by the Goods and Services Tax (GST) implementation and a depreciation of Ringgit against the US dollar. The Malaysian construction sector accounted for 4.5% of GDP in 2016<sup>71</sup> with residential housing projects, which are among the major consumers of decorative paints and coatings<sup>72</sup>, accounting for approximately 24.4% of total constructions. The construction sector is forecasted to account for 5.5% in year 2020<sup>73</sup>, registering a CAGR of 5.0% over the period 2016-2020. Analyzing the above factors, Frost & Sullivan expects the retail decorative paint and coating market in Malaysia to grow at a CAGR of approximately 5.2%<sup>74</sup> over the forecast period to reach approximately USD459.3 million by 2021.

**The rest of the page is intentionally left blank**

---

<sup>70</sup> From GDP growth rate of -12.4% in 2015 to 2.2% in 2016

<sup>71</sup> <http://www.epu.gov.my/sites/default/files/MEIF%202016.pdf>

<sup>72</sup> <https://www.pressreader.com/malaysia/new-straits-times/20161212/282733406498677>

<sup>73</sup> [www.citp.my/v2/wp-content/uploads/CITP-Public-Document.pdf](http://www.citp.my/v2/wp-content/uploads/CITP-Public-Document.pdf)

<sup>74</sup> The growth in this market is expected to remain moderate as compared to the markets in other countries such as Vietnam and Myanmar. This is due to the fact that Malaysia already has a high per capita paint and coating consumption of 9.0 liters as compared to Vietnam at 3.0 liters and Myanmar at 1.0 liters. Therefore, there is more scope for growth in the markets of Vietnam and Myanmar than that of Malaysia.

## **Myanmar**

The retail market size of the decorative paints and coatings in Myanmar was valued at approximately USD24.8 million in 2011. It reached a value of approximately USD35.0 million in 2016, recording a CAGR of approximately 7.1% between 2011 and 2016. During the later years of this period huge investments were made in the services sector, especially towards telecommunications<sup>75</sup>, which resulted in its growth of 59.1%<sup>76</sup> in 2015 as compared to 2014. Growth in the retail market for decorative paints and coatings in Myanmar was mainly driven by construction of offices complexes, other commercial spaces and new houses developed around the previous two. However, according to Asian Development Bank (ADB), the poor quality of and access to infrastructure is exacerbated in rural areas, while basic urban infrastructure and services are insufficient to enable urban centers to serve as poles for economic growth and weaknesses in urban planning were some of the major restraints for economic growth during the same period. Therefore the main focus<sup>77</sup> of the government is on macroeconomic policies and structural reforms including access to finance. On the infrastructure development front, the key focus areas<sup>78</sup> are on energy transmission and distribution, transport infrastructure upgrading, and urban infrastructure and housing development.

Growth in the retail market for paints and coatings is expected to be moderate due to political concerns and civil unrest in Myanmar. Frost & Sullivan expects the decorative paint and coating market in Myanmar to grow at a CAGR of approximately 6.2% over the forecast period to reach approximately USD47.3 million by 2021. Factors such as stagnant repainting cycles (average of 5 years<sup>79</sup>), negligible portion of population spending on costlier and imported paints and coatings, deceleration in development<sup>80</sup> of commercial properties as well as the May 2016 decision by the Yangon City Development Corporation to suspended the construction of approximately 200 high rise building projects due to concerns over constructions starting without the necessary permits and violation of building standards are expected to affect the growth in the retail market for decorative paints and coatings in Myanmar.

## **Cambodia**

The retail market size for decorative paints and coatings in Cambodia was valued at approximately USD24.7 million in 2011 and it reached a value of approximately USD30.0 million in year 2016; registering a CAGR of approximately 4.0% from 2011 to 2016. It is further expected to reach USD39.0 million by 2021 recording a CAGR of approximately 5.4% over the period 2016 to 2021. The country's proximity to Malaysia and Vietnam aiding in raw material imports, the maturity of market and political stability in Cambodia are considered beneficial to the country. Additionally, major infrastructure investment focus on areas such as irrigation and water management, rural electrification, roads and water supply are expected to indirectly benefit the retail market for decorative paints and coatings by serving as an impetus to rural household incomes. However, the construction sector in Cambodia, which accounts to approximately one-sixth of the total GDP and is expected to decelerate in the forecast period due to slowdown (2.3% YOY growth rate in 2015 as compared to 17.5% YOY in 2014) in the number of annual construction permits<sup>81</sup> and the government's policy for taxation on import of paints and coatings are likely to restrict growth in the retail market for decorative paints and coatings in Cambodia.

---

<sup>75</sup> [http://www.themimu.info/sites/themimu.info/files/documents/Report\\_Inclusive\\_Growth\\_Diagnostic\\_DFID\\_Nov2015.pdf](http://www.themimu.info/sites/themimu.info/files/documents/Report_Inclusive_Growth_Diagnostic_DFID_Nov2015.pdf)

<sup>76</sup> <https://www.adb.org/sites/default/files/institutional-document/237161/cps-mya-2017-2021.pdf>

<sup>77</sup> <http://www.worldbank.org/en/news/press-release/2016/05/31/myanmar-growth-eases-slightly-but-remains-robust-in-2015-2016>

<sup>78</sup> <https://www.adb.org/sites/default/files/institutional-document/237161/cps-mya-2017-2021.pdf>

<sup>79</sup> <http://www.mmtimes.com/index.php/business/property-news/5685-painters-finding-more-work-beyond-yangon.html>

<sup>80</sup> <http://documents.worldbank.org/curated/en/271301485510327677/pdf/112317-WP-MEM-Jan27-17-final-PUBLIC.pdf>

<sup>81</sup> <http://documents.worldbank.org/curated/en/403961467989523939/pdf/104756-REVISED-PUBLIC-Final-CEU-April-2016-English.pdf>

## **Laos**

The retail market for decorative paints and coatings in Laos registered a CAGR of approximately 2.0% between 2011 and 2016, growing from USD15.6 million in 2011 to USD17.2 million in 2016. The historical growth rate of retail market for decorative paints and coatings in Laos was considerably lower than Myanmar as Laos received international support in the form of developmental aids from countries such as China and Vietnam. These aids were mainly devoted towards social causes such as improving health and child nutrition and less focused towards economic development. Whereas Myanmar received FDI from multinational companies in United States which helped in catapulting its growth<sup>82</sup>. According to Asian Development Bank (ADB) the major developmental focus<sup>83</sup> of the government in Laos is towards access to safe water supply, sanitation, energy and infrastructure (construction of hydropower plants and development in SEZs). One of the major upcoming infrastructure projects<sup>84</sup> is the Kunming – Singapore railway, which is expected to boost economic activities in the country and drive construction activities along the railway network routes. Also, between 2003 and 2013, the number of people living in brick/concrete houses has increased considerably, from 20.0%-25.0% of the total population in 2003 to approximately 40.0%-50.0% of the total population in 2013 indicating a gradual shift towards better quality house constructions. However, given that approximately 70.0%-80.0% of the population lived on less than USD2.5 per day in 2013<sup>85</sup>, it is highly unlikely that consumer spending (at par with other countries in the SEA) is likely to be directed towards painting and repainting activities. These are likely to moderate the growth rates in the retail market for decorative paints and coatings in Laos. As a result of the aforementioned factors, Frost & Sullivan expects the retail market for decorative paints and coatings in Laos to grow at a relatively slower pace (as compared to the other countries in SEA) from 2016 to 2021, registering a CAGR of approximately 3.5% over the forecast period to reach approximately USD20.4 million by 2021.

**The rest of the page is intentionally left blank**

---

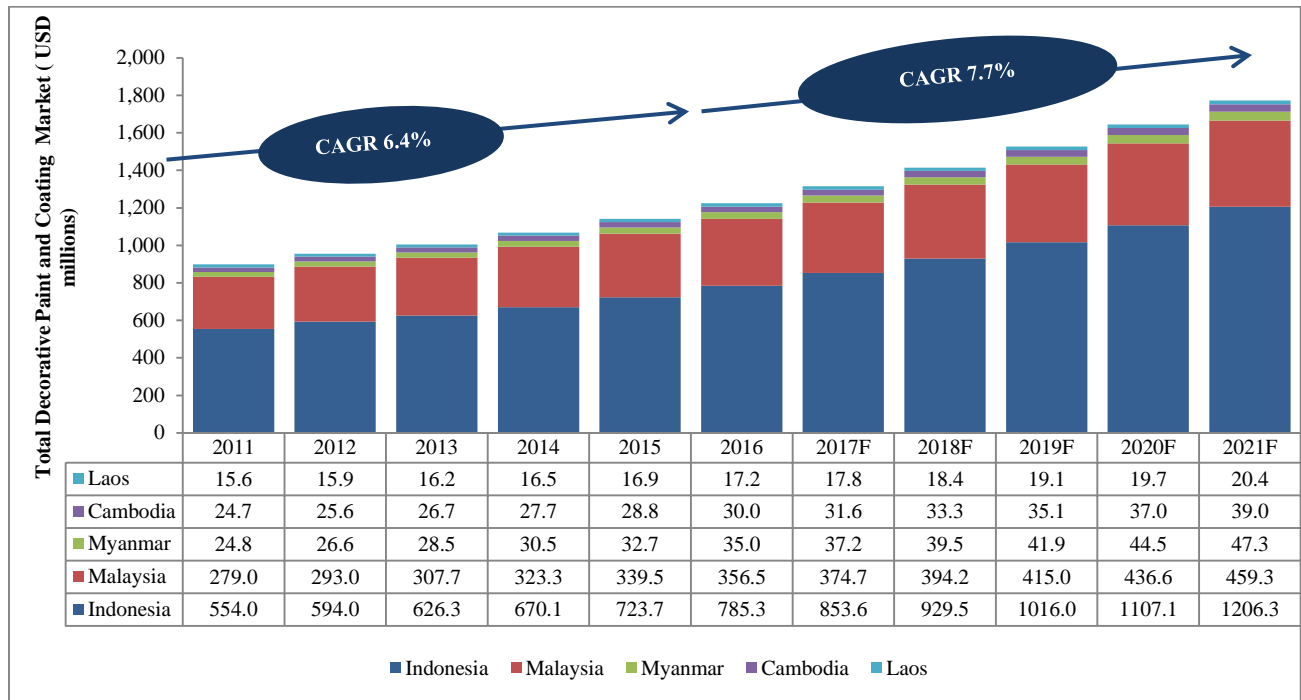
<sup>82</sup> FDI's propagate economic growth in the long term and build up a business ecosystem in the country whereas developmental aids are generally focused towards social and infrastructural developments

<sup>83</sup> [https://www.adb.org/sites/default/files/institutional-document/202116/cobp-lao-2017-2019\\_0.pdf](https://www.adb.org/sites/default/files/institutional-document/202116/cobp-lao-2017-2019_0.pdf)

<sup>84</sup> <http://thediplomat.com/2016/06/singapore-kunming-rail-link-a-belt-and-road-case-study/>

<sup>85</sup> <http://documents.worldbank.org/curated/en/515521468197368035/pdf/AUS17628-WP-OUO-9-Lao-Economic-Monitor-May-2016-has-been-approved-P157829.pdf>

### Retail Market Size of Decorative Paints and Coatings in Selected SEA Countries, USD, 2011-2021F



Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan

Note: All figures are rounded. Base year is 2016

### Growth Rates of Retail Market for Decorative Paints and Coatings in Select Southeast Asian Countries, (USD), 2011-2021F

	CAGR 2011-2016	CAGR 2016-2021
Indonesia	7.2%	9.0%
Malaysia	5.0%	5.2%
Myanmar	7.1%	6.2%
Cambodia	4.0%	5.4%
Laos	2.0%	3.5%

Source: Primary interviews with industry participants, desktop research and forecast by Frost & Sullivan

Note: All figures are rounded. Base year is 2016.



#### 4.1.3. Competitive Landscape

##### Key Competitors - Decorative Paint and Coating Retail Market in Malaysia

Name of the company	Headquarters	Subsidiaries	Segments present	Manufacturing plants	Cater to retail channel
Nippon Paint Holdings Co., Ltd.	Japan	Nippon Paint (Malaysia) Sdn. Bhd.  Nippon Paint (Sabah) Sdn. Bhd.  Paint Marketing Company (Malaysia) Sdn. Bhd.	Decorative Paints Wood Paints Metal Coatings Protective Coatings Automotive Paints Waterproofing	Plants in Malaysia at Shah Alam, Johor Bahru and Kolombong (Sabah)	Yes
Akzo Nobel N.V.,	Netherlands	Akzo Nobel Paints (Malaysia) Sdn. Bhd.  DGL International (Malaysia) Sdn Bhd	Decorative paints Automotive paints Metal coatings Marine coatings Protective coatings Waterproofing Wood Paints	Manufacturing facility at Johor Bahru	Yes
Jotun	Norway	Jotun (Malaysia) Sdn. Bhd.  Jotun Paints Sdn. Bhd., Nilai - (sales and production)	Decorative Paints Marine Coatings Protective Paints Metal Coatings Powder Coatings Wood Paints	Manufacturing plants in Malaysia at Shah Alam and Nilai	Yes

Source: Primary interviews with industry participants, and Frost & Sullivan analysis

The rest of the page is intentionally left blank

### Key Competitors - Decorative Paint and Coating Retail Market in Indonesia

Name of the company	Headquarters	Subsidiaries	Segments present	Manufacturing plants	Cater to retail channel
Nippon Paint Holdings Co., Ltd.	Japan	PT Nipsea Paint and Chemicals  Nippon Paint PT. NP Auto Refinishes	Decorative Paints Wood Paints Metal Coatings Protective Coatings Automotive Paints Waterproofing	Nippon has production plants in Indonesia at Jakarta, Medan, Surabaya and Purwakarta	Yes
PT. Avia Avian	Indonesia	---	Decorative paints Wood coatings Metal coatings Automotive paints	Plants in Indonesia at locations: Serang, Medan, Sidoarjo and Cirebon	Yes
Akzo Nobel N.V.,	Netherlands	PT ICI Paints Indonesia	Decorative paints Automotive paints Metal coatings Marine coatings Protective coatings Waterproofing Wood Paints	Manufacturing facility at Bekasi (Cikarang) and Bogor	Yes

Source: Primary interviews with industry participants, and Frost & Sullivan analysis

### Key Competitors - Decorative Paint and Coating Retail Market in Myanmar

Name of the company	Headquarters	Subsidiaries	Segments present	Manufacturing plants	Cater to retail channel
United Paints Group Co., Ltd.	Myanmar	---	Decorative paints Architecture paints Wood coatings Marine paints Industrial paints Protective coatings	Yangon (Myanmar)	Yes
Akzo Nobel N.V.,	Netherlands	Akzo Nobel Co.,Ltd. (Yangon)	Decorative paints Automotive paints Protective coatings Waterproofing Wood Paints	Imports products from nearby manufacturing locations	Yes
TOA Paint (Thailand) Public Company Limited	Thailand	TOA Paint (Myanmar) Co. Ltd TOA Coating (Myanmar) Co. Ltd	Decorative Wood paint Protective Coatings Waterproofing	Shwepyitha Industrial Zone, Yangon, Thilawa SEZ, Yangon,	Yes

Source: Primary interviews with industry participants, and Frost & Sullivan analysis

### Key Competitors - Decorative Paint and Coating Retail Market in Cambodia

Name of the company	Headquarters	Subsidiaries	Segments present	Manufacturing plants	Cater to retail channel
United Paints Group Co., Ltd.	Myanmar	---	Decorative paints Architecture paints Wood coatings Industrial paints Protective coatings	Imports products from Myanmar	Yes
Jotun	Norway	Jotun (Cambodia) Ltd., Phnom Penh (Sales)	Decorative Paints Protective Paints Metal Coatings Powder Coatings Wood Paints	Imports products from nearby manufacturing locations	Yes
Akzo Nobel N.V.,	Netherlands	---	Decorative paints Metal coatings Marine coatings Protective coatings Waterproofing Wood Paints	Imports products from nearby manufacturing locations	Yes

Source: Primary interviews with industry participants, and Frost & Sullivan analysis

### Key Competitors - Decorative Paint and Coating Retail Market in Laos

Name of the company	Headquarters	Subsidiaries	Segments present	Manufacturing plants	Cater to retail channel
United Paints Group Co., Ltd.	Myanmar	---	Decorative paints Architecture paints Wood coatings Marine paints Industrial paints Protective coatings	Imports products from Myanmar	Yes
Jotun	Norway	---	Decorative Paints Marine Coatings Protective Paints Metal Coatings Powder Coatings Wood Paints	Imports products from nearby manufacturing locations	Yes
Beger Co., Ltd.	Thailand	---	Decorative paints Wood coatings Construction Chemicals Heavy Duty Coating Special Paints	Imports products from Thailand and Indonesia	Yes

Source: Primary interviews with industry participants, and Frost & Sullivan analysis

#### **4.1.4. Industry Prospects & Outlook**

The retail decorative paint and coating market for Malaysia, Indonesia, Myanmar, Cambodia and Laos combined is likely to surge from the 2016 level of approximately USD1,224.0 million to approximately USD1,772.4 million by 2021, witnessing a compound annual growth rate (CAGR) of approximately 7.7%. A rise in disposable income, increasing urbanization, development of the construction and infrastructure industries and launches of new products is expected fuel the paint and coating industry's growth in these five countries.

Multinational paint and coating companies such as AkzoNobel and Nippon Paints are playing an increasingly important role in the Indonesian and Malaysian decorative paint and coating marketplace; whereas local manufacturers such as UPG in Myanmar have a strong foothold in the decorative marketplace. Volatility of the local currency and international oil prices are likely to continue to remain a challenge to the paint and coating industry. To combat this, some paint and coating companies have adapted backward integration with an aim to achieve better margins. For example, Akzo Nobel manufactures paints and coatings and at the same time, it is involved in the production of raw materials, such as resins.

Increased regulatory pressure and rising public awareness of environmental and health issues have created a greater demand for low-VOC (volatile organic compound) paints and coatings in recent years, leading to the development of a new generation of low solvent or solvent-free decorative paints and coatings in the Malaysian and Indonesian markets. Myanmar's investment commission currently requires the submission of environmental impact assessments while there is no ban on paints and coatings which are harmful (high-VOC) to the environment or human health.

The outlook for the decorative paint and coating market in Malaysia is expected to remain fairly positive, driven by the change in consumer demands with high standard of living and rapid development of commercial and residential buildings supported by the significant increases in development expenditure (approximately 16.2% increase from previous plan) in the 11th Malaysia Plan (2016-2020). Growth in the Indonesian decorative paint and coating market is expected to continue on its upward trajectory owing to the rapid infrastructure developments, increased FDI and increased tourism, coupled with establishment of economic development zones. With the opening up of Myanmar, Laos and Cambodia's economies in recent years and the expected construction boom that is likely to be a result of this liberalization, the near-term (2016-2018) outlook for decorative paint and coating market in these countries is expected to be positive.

**The rest of the page is intentionally left blank**

## 5. BRIEF OVERVIEW OF THE SOUTHEAST ASIA NON-DECORATIVE PAINT AND COATING INDUSTRY

Promising macro-economic conditions in a majority of SEA countries, especially Thailand, Indonesia and Vietnam, are expected to result in buoyant growth prospects for the non-decorative paint and coating market in the forecast period.

The SEA protective wood coating segment is driven by exports of locally made wooden furniture as well as low production and low labor cost relative to its' Western counterparts. Vietnam and Indonesia are among the leading markets for protective wood coatings in SEA. As the world's 6th largest wood furniture exporter, Vietnam is slated to expand its furniture industry at a robust pace with exports of up to approximately USD10.0 billion<sup>86</sup> by 2020; increasing the demand for protective wood coatings. Protective wood coatings is expected to be a major end-user segment in Vietnam in the forecast period, owing to the importance of the wood processing industry and the robust demand for Vietnamese-made furniture from export markets around the world. Indonesia is the second largest protective wood coatings market in SEA, also driven by furniture exports. With abundant natural resources, the government of Indonesia plans to boost its promotion of wood furniture businesses at international fairs and exhibitions. The export-oriented market is expected to fuel demand for protective wood coatings as the industry has a goal to increase exports from approximately USD2.7 billion in 2013 to approximately USD5.0 billion<sup>87</sup> by 2020. The protective wood coatings market in Malaysia and Thailand is affected by the impact of lower-priced imported furniture from neighboring countries, such as China and Vietnam; limiting the demand for protective wood coating.

Thailand, Malaysia and Indonesia account for a majority of protective (metal and concrete) coatings in SEA, with the automotive industry acting as a major driver for metal protective coatings. Automotive production is rapidly growing in Thailand, Indonesia, and Malaysia due to lower production costs and favorable macroeconomic indicators resulting in a positive impact on the consumption of metal protective coatings. Thailand with a vehicle production volume of approximately 1.9 million units (2016) is the leader in automotive production in SEA followed by Indonesia and Malaysia. Thailand's automotive production is expected to grow at a CAGR of approximately 4.2% between 2016 and 2020 and reach approximately 2.3 million units by 2020. Indonesia produced approximately 1.08 million vehicles in year 2016 and the production is expected to reach approximately 1.29 million by 2020 with a CAGR of approximately 4.5% whereas Malaysia produced approximately 0.65 million vehicles in year 2016 and is expected to reach nearly approximately 0.7 million by 2020 with a CAGR of approximately 2.5%. The Malaysian Government also targets for Malaysia to become the regional hub for Energy Efficient Vehicles (EEV) through strategic investments and adaptation of high technology for domestic market and to penetrate regional and global markets by 2020. The increase in vehicle production volumes in Thailand, Indonesia and Malaysia coupled with the Philippine's government's Comprehensive Automotive Resurgence Strategy (CARS) to reach a production volume of approximately 0.5 million by 2020 is expected to give a boost to the demand for automotive metal protective coatings in SEA.

The concrete protective coatings market in Indonesia is likely to expand over the next few years owing to increased FDI and significant investments in developing transport, energy and utilities infrastructure totaling approximately USD90.0 billion<sup>88</sup> by 2018. Malaysia's concrete protective coatings market is driven by investments in developing transport infrastructure, such as roads and railways and energy and utilities infrastructure, especially refineries and petrochemical complexes. Investments in developing transport and energy and utilities infrastructure totaling approximately to USD8.0 billion<sup>89</sup> by 2018 are expected to propel the Malaysian concrete protective coatings market. Thailand's concrete protective coatings market is spurred by investments in developing transport

<sup>86</sup> <http://www.saigon-gpdaily.com.vn/Business/2014/8/110236/>

<sup>87</sup> <http://kusnandarlaw.blogspot.in/2015/12/the-furniture-industry-still-fells.html>

<sup>88</sup> Central Bureau of Statistics Indonesia

<sup>89</sup> Malaysia Economic Prospect, BMI

infrastructure by the government to shift the transport mode from road to rail. The concrete protective coatings market in Thailand is expected to grow over the next few years supported by investments in developing transport and energy and utilities infrastructure totaling more than USD70.0 billion<sup>90</sup> by 2020. Similarly, Vietnam's concrete protective coatings market is gaining support from investments in developing the transport infrastructure. With infrastructure projects pursuing the PPP model totaling to investments worth approximately USD200.0 billion<sup>91</sup> by 2020, the concrete protective paint and coating sector is anticipated to witness promising trends over the forecast period.

The market for waterproofing coatings in SEA is driven by growth in high-rise building construction; increasing public and private investments. Vietnam is one of the key consumers of waterproofing coatings in SEA, driven by growth of the infrastructure and construction industries, especially in new residential buildings due to increasing urbanization. Vietnam's waterproofing market is further supported by the rising awareness of waterproofing coatings to ensure long-term sustainability of construction and preventing leakages and water settlement. Thailand's overall retail sales in the waterproofing coatings market saw a slowdown in 2015, mainly due to price drops. As construction activity speeds up, and more projects approach the waterproofing application stage, an improved outlook is expected during the forecast period. Liquid-based waterproofing coatings (e.g., PU, Acrylic, Bituminous based) account for majority of the total market for waterproofing coatings in Thailand. Bangkok and the East region are prime markets for waterproofing coatings. Project sales are the preferred sales channel while residential segments leads demand for waterproofing coatings in Thailand. Indonesia's waterproofing coatings market is supported by growing construction activity in both non-residential and residential segments. The waterproofing coating segment in Indonesia has the highest proportion of high-end products, and customers' willingness to pay premium prices ensures a strong market for waterproofing coatings. Liquid-based waterproofing coatings account for majority of the total market. The Java region is the focal center of the waterproofing coatings market. Project sales are the preferred sales channel and non-residential segments leading the demand for the waterproofing coatings in Indonesia. The outlook for non-decorative waterproofing in Malaysia is expected to be positive due to the rapid development of commercial and residential buildings supported by the Government's plan to increase infrastructure spending.

Market sizes of non-decorative paints and coatings in Myanmar, Cambodia and Laos are smaller than the markets in the other SEA countries. However, with the increasing rate of urbanization, growing construction and infrastructure projects coupled with increased foreign direct investments, the market for non-decorative paints and coatings in these countries is expected to record positive growth rates in the forecast period.

**The rest of the page is intentionally left blank**

---

<sup>90</sup> AECOM; Bank of Thailand

<sup>91</sup> BMI; General Statistic Office, Vietnam

## **6. OVERVIEW OF PROSPECTS FOR THE COMPANY IN THE INDUSTRY**

TOA Paint (Thailand) Public Company Limited is headquartered in Thailand, one of the largest economies in SEA. The country is on a growth trajectory after temporary setbacks due to the floods, depreciating THB versus USD and uncertainties in the political environment. Public investment in large infrastructure projects, growth in the agriculture sector and higher tourist arrivals (13.1% rise compared to 2015) continue to stimulate the economy. Consequently, an increase in GDP per capita registering a CAGR of 5.2% between 2016 and 2020, moderate inflation and increase in disposable income are likely to augur well for increased discretionary spending in the country. The construction industry in Thailand, a key indicator of economic revival, has also been the beneficiary of the growth story with FDI inflows to the tune of approximately USD3.8 billion in the first half of 2016. Residential construction activities have also been on the upswing with the government's stimulus package for low cost housing and a steady rise in retail sales index.

As a result of the aforementioned factors, the Thailand retail decorative paint and coating industry has registered growth rates (2016-2021) of nearly 5.1% in the decorative category to reach THB24.6 billion in 2021.

Vietnam is the largest market for the Company outside of Thailand. The fast-developing economy in Vietnam is a key driver of the paint and coating industry in the country. The purchasing power of the Vietnamese population continues to expand with rising income levels. Consumer spending in the retail industry is stimulating demand for various kinds of goods and services that have direct or indirect linkages with the paint and coating industry. Construction and housing sectors, for example, are the primary buyers of paints and coatings, especially decorative coatings. Growing domestic demand and export surplus in the furniture industry also support the growth of the paint and coating industry.

The Vietnam retail decorative paint and coating industry has registered a growth rate of nearly 9.9% over 2016-2021 mainly driven by heightened activity in the housing market as well as an improvement in overall economic conditions in the country.

### **Competitive advantages for The Company**

The Company was the market leader in Thailand retail decorative paint and coating industry with approximately 48.7% market share in 2016. The Company was also held second largest retail market share across each of the non-decorative product categories. Key competitors in the SEA region are large global paint and coating manufacturers such as Akzo Nobel, Nippon and Jotun among others. The competing domestic paint and coating manufacturers are Beger in Thailand, 4 Oranges in Vietnam, UPG in Myanmar and Urai Panich in Laos.

To stay ahead of its competitors, the Company has invested in research and development over the years. The Company was the first paint and coating manufacturer in Thailand and SEA to adopt Acrylic Technology in 1979 and used antimicrobial technology & odor control in its paints and coatings from 2002 before making a switch to ultra-low VOCS (Volatile organic compound) technology in 2013. Some of the technological advancements such as Nano Crystal Glass technology, Air Detoxify technology, Triple Nano Titanium technology, 3M Stain Resistance technology and Micro-fiat Ceramic technology are found in various paint and coating products of The Company. In addition to that, the Company has also collaborated with various industries such as The Chemours (Thailand) Company, DOW Chemical Thailand Ltd., Wacker Chemie A.G., Ashland and Amazon Colours; and research institutes and universities in Thailand such as King Mongkut's Institute of Technology Ladkrabang and Thonburi, Kasetsart University and Naresuan University to co-develop technologies that are used in The Company's production lines.\*

### **Brand positioning and recognition**

Existing leading paint and coating manufacturers have a strong brand-recall status in the minds of the retail consumer by way of their proven track record and established market presence. Traditional retailers also prefer to stock products of established manufacturers as it gives them better margins by way of a relatively shorter shelf-time in comparison to lesser known brands.

During the two consecutive years of 2015 and 2016, the Company has earned recognition from the BrandAge magazine as Thailand's Most Admired Company. The Company was also recognized every year by the same

magazine as Thailand's Most Admired Brand between 2011 and 2016. The Marketeer Magazine also recognized the Company as the No. 1 Brand Thailand for five consecutive years starting from 2011 to 2016. The Baramizi Trend and Design Research Lab also named the Company as The Most Powerful Brand in 2015. In the same year, the Company also received Best Practices Awards from both Frost & Sullivan and the World Branding Awards.\*

A strong brand name and recognition not only helps in driving sales of existing products but also gives the Company an edge over its competitors in terms of launching new products in existing markets effectively.

### **Distribution channel advantages**

Thailand has a relatively low population density of 134 persons per square kilometer compared to regional neighbors such as Vietnam (308) and Indonesia (146)<sup>92</sup>, necessitating the importance of a robust distribution network to cater to the wide-spread population. Existing large paint and coating manufacturers already have a strong distribution network by virtue of their long-standing presence in the industry generating approximately 75.0% to 80.0% sales from their retail dealer distribution channel.

The Company has an extensive distribution channel in Thailand and the SEA. The four major distribution channels of the Company are retail dealers, modern trade distributors, projects and exports. There are a total of approximately 5,300 retailers across 77 provinces in Thailand that sell the Company's paints and coatings as compared to the second largest retail market share holder of decorative paints and coatings in Thailand, Beger Co., Ltd, which has access to approximately 4,000 retail dealers. Apart from this, the Company also has access to approximately 2,400 retail dealers across the different countries in the AEC region\*.

In its modern trade distribution channel, the Company sells to large chain stores such as HomeWorks, Thai Watsadu, Global House and Boonthavorn in Thailand, HomePro in Thailand and Malaysia, Asia Center and Pro1 in Myanmar, and Mitra 10, Depo Bagunan, Istana Bagunan Nusantara and Tirta Bagunan Baru in Indonesia. The Company's projects distribution channel comprises of projects for governments, and with property developers and real estate companies such as Sansiri, Land & Houses, Q House, Property Perfect and Golden Land Property in Thailand, Cowell Development, Tamara Land, SpringHill Group and AKR Land in Indonesia, Hoang Anh Gia Lai in Vietnam, and Borey Lim Cheanghak and Daun Penh Land in Cambodia. The Company has approximately 400 of its product consultants placed with its modern trade distributors. These consultants help drive demand of the Company's paint and coating products, promote new products to the modern trade distributors as well as provide customer service and local market insights\*.

The Company has also benefitted from wholesale export to a large number of countries within the AEC such as Malaysia, Singapore, Brunei, Philippines, Indonesia, Cambodia, Laos, Myanmar and Vietnam, as well as to other countries outside the AEC, namely, Maldives, China, India, Australia, Ghana, Pakistan, Sri Lanka, United Arab Emirates, Lebanon, Cook Islands, Bangladesh and Nigeria. The Company also maintains sales offices in its key markets in the AEC outside Thailand, such as Vietnam, Laos, Malaysia, Indonesia, Myanmar and Cambodia\*.

The Company is also planning to develop an online distribution channel by leveraging its extensive distribution network across Thailand. An e-commerce technology platform is currently being tested which is likely to help the Company roll-out an online sales channel that caters to end users who will be able to buy the Company's paint and coating products online\*.

*Note: \* Content in paragraphs marked with an '\*' are based on information shared by The Company.*

---

<sup>92</sup> <http://data.worldbank.org/indicator/EN.POP.DNST>