



From the Desk
of the
Chief Economist

BANK ISLAM

UNVEILING OPPORTUNITIES WITHIN THE RUBBER INDUSTRY

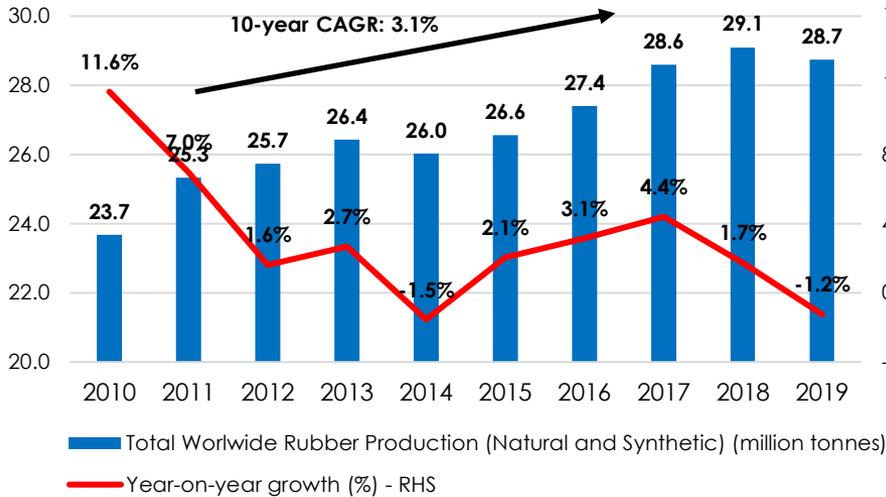
18 DECEMBER 2020

ECONOMIC RESEARCH

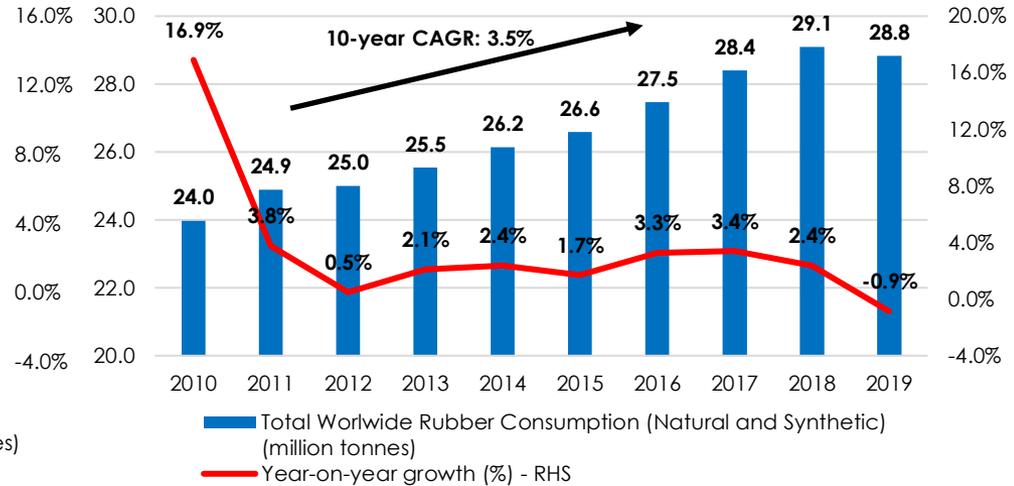
**DR. MOHD AFZANIZAM ABDUL RASHID
ADAM MOHAMED RAHIM
SHAFIZ BIN JAMALUDDIN
NOR JANNAH ABDULLAH**

Page 3	GLOBAL OVERVIEW RUBBER INDUSTRY
Page 5	LANDSCAPE OF MALAYSIAN RUBBER INDUSTRY
Page 7	ISSUES IN MALAYSIA'S NATURAL RUBBER INDUSTRY
Page 12	SILVER LINING FOR THE NATURAL RUBBER INDUSTRY
Page 20	INITIATIVES BY THE MALAYSIAN RUBBER BOARD
Page 22	FORWARD LOOKING STATEMENT

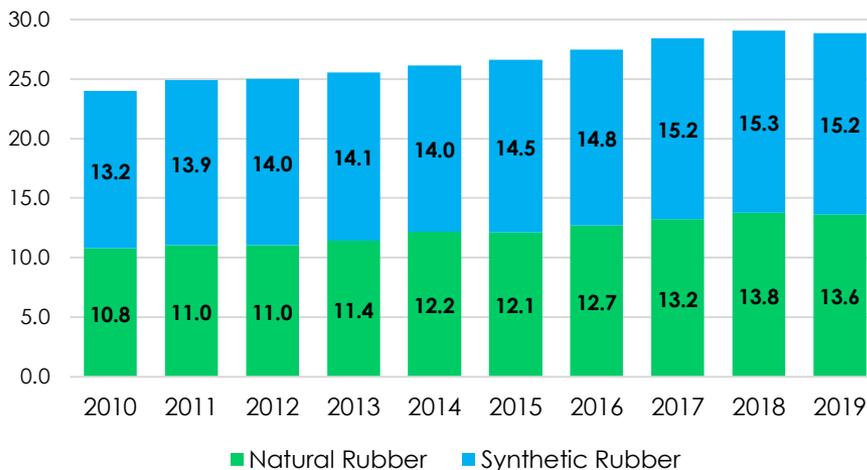
Total Worldwide Rubber Production



Total Worldwide Rubber Consumption

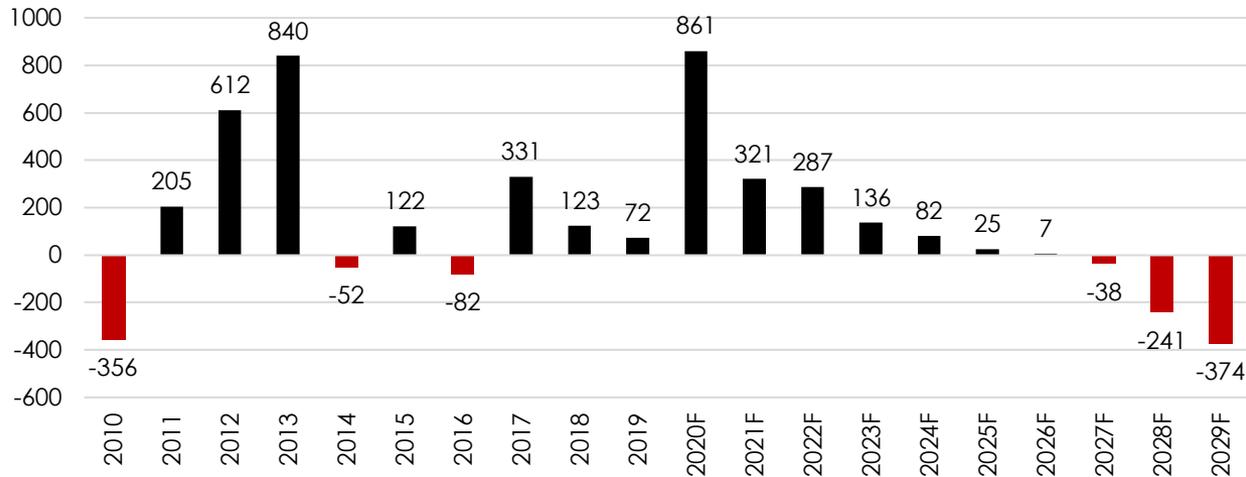


Consumption of Natural Rubber vs. Synthetic Rubber (million tonnes)



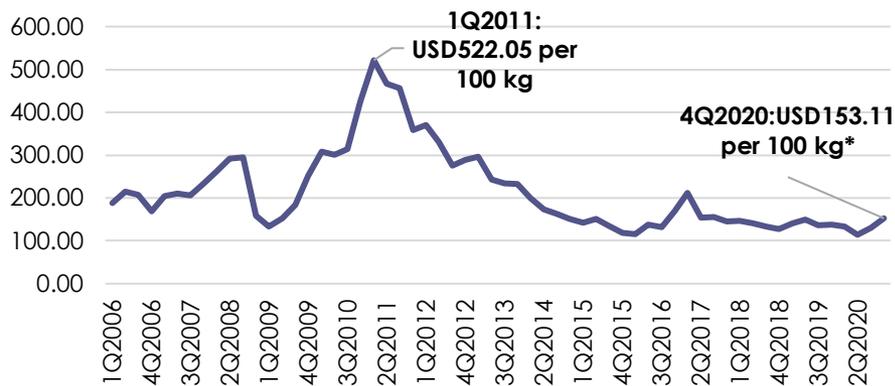
- ✓ Production of rubber (synthetic and natural) has been growing at a 10-year compound annual growth rate (CAGR) of above 3.0% in light of demand from the automotive and medical supplies industry.
- ✓ However, it is important to note that synthetic rubber (artificially produced from a variety of polymers which provides the rubber its properties) has always made up more than half of the total rubber consumption worldwide given its excellence heat resistance.
- ✓ The Association of Natural Rubber Producing Countries (ANRPC) estimated that the consumption of natural rubber in 2020 will fall to 12.8 million tonnes (2019: 13.6 million tonnes) before rebounding to 13.4 million tonnes in 2021. Perhaps in the longer term, natural rubber would be able to regain market share from synthetic rubber in terms of consumption if industries such as rubber gloves shift more towards the usage of natural rubber for production.

Natural Rubber Supply Surplus/Deficit ('000 tonnes)



Source: International Rubber Study Group

SGX Technically Specified Rubber 20 Futures 1st Month (USD/100 kg)



Source: Bloomberg
*Latest quarter-to-date average

- ✓ At the moment, the natural rubber oversupply could stymie price growth for another six years before a deficit in supply occurs in 2027 according to the International Rubber Study Group.
- ✓ Therefore, rubber prices (refer to chart on the left) may remain below the USD200.00 per 100 kg level amid excess supply while a retreat to a low of USD115.94 per 100 kg appears less likely as demand may stay elevated relative to pre-pandemic levels even in 2022.
- ✓ In addition, petroleum-based synthetic alternatives have continued to gain market share, constraining natural rubber's demand growth worldwide.
- ✓ The recent price strength may have been driven by adverse weather affecting production, which tends to be short-lived.

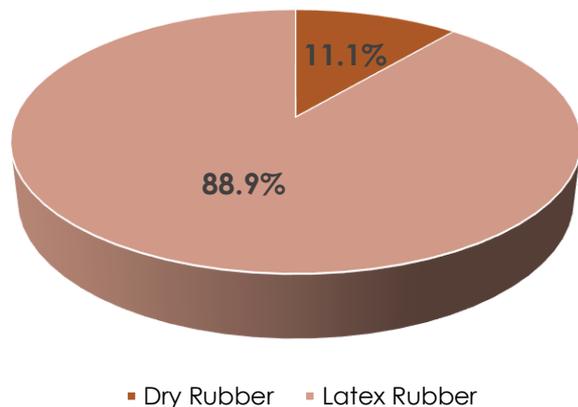
TRENDS FOR NATURAL AND SYNTHETIC RUBBER CONSUMPTION IN MALAYSIA

Rubber Consumption in Malaysia

Year	Natural Rubber ('000 Tonnes)	Synthetic Rubber ('000 Tonnes)	Total Rubber Consumption ('000 Tonnes)	Natural Rubber:Synthetic Rubber Ratio
2010	457.9	185.1	643.0	71:29
2011	401.9	226.0	627.9	64:36
2012	441.4	258.6	700.0	63:37
2013	434.2	290.7	724.9	60:40
2014	447.5	353.2	800.7	56:44
2015	474.8	418.8	893.6	53:47
2016	486.1	419.0	905.1	54:46
2017	488.9	446.7	935.6	52:48
2018	515.6	470.4	986.0	52:48
2019	515.5	475.7	991.2	51:49
9M2020	382.3	404.2	786.5	49:51

Source: Malaysian Rubber Board

Consumption Breakdown of Natural Rubber in Malaysia

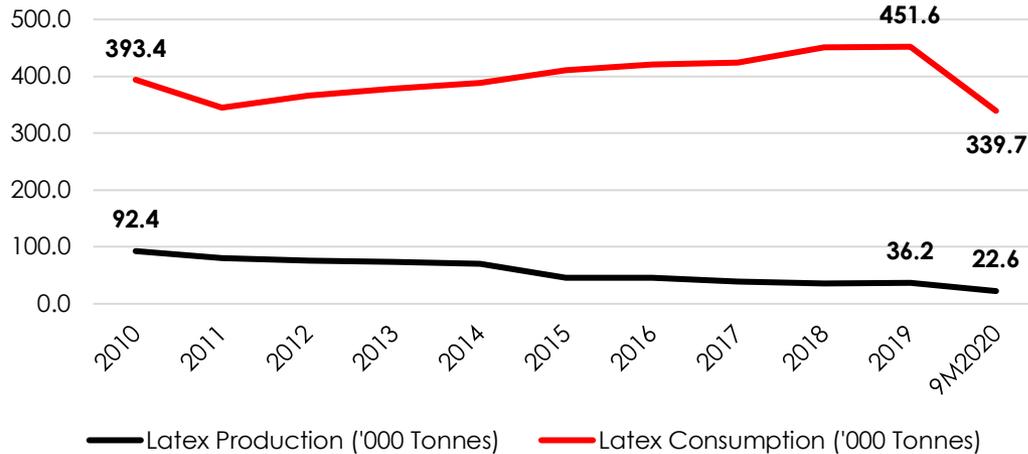


Source: Malaysian Rubber Board
Note: As at 9M2020

- ✓ In Malaysia, the consumption of synthetic rubber has been gradually increasing since 2010 until now, similar to the trends observed on the global level as highlighted earlier.
- ✓ For instance, the consumption of ratio of natural rubber to synthetic rubber was at 71:29 in 2010 compared to 9M2020 which stood at 49:51.
- ✓ Within the natural rubber category which is further divided into dry rubber and latex rubber, the consumption of latex makes up the bulk of consumption at nearly 90.0%.

PRODUCTION VS. CONSUMPTION OF LATEX RUBBER IN MALAYSIA

Latex Production vs. Latex Consumption in Malaysia



Source: Malaysian Rubber Board

- ✓ While latex rubber consumption is way higher compared to dry rubber consumption, the amount of latex produced by Malaysia is significantly lower.
- ✓ In 2019, only 36,200 tonnes of latex rubber was produced while 451,600 tonnes of latex were consumed in Malaysia.
- ✓ Aside from that, the planted area of natural rubber in Malaysia of 1.1 million hectares is slightly larger than Vietnam's 1.0 million hectares. However, Vietnam's production of natural rubber is almost double compared to Malaysia's.
- ✓ The wide gap between production and consumption of latex in Malaysia combined with the large planted area of natural rubber unveils an issue for rubber producers particularly latex and smallholders in realising their full potential.

Natural Rubber Production and Planted Area of Natural Rubber in Malaysia and Vietnam in 2019

Country	Natural Rubber Production ('000 tonnes)	Planted Area of Natural Rubber ('000 Hectares)
Malaysia	639.8	1,113.0
Vietnam	1,285.2	962.0

Source: Malaysian Rubber Board

Consumption of latex products in Malaysia increased.



BUT

9M2020: 339,694 tonnes
9M2019: 328,945 tonnes

Source: Malaysian Rubber Board

Capacity from about 1.0 million hectares of total planted area not fully utilized!



639,800 tonnes of natural rubber produced in 2019, out of 1.1 million tonnes of potential capacity.

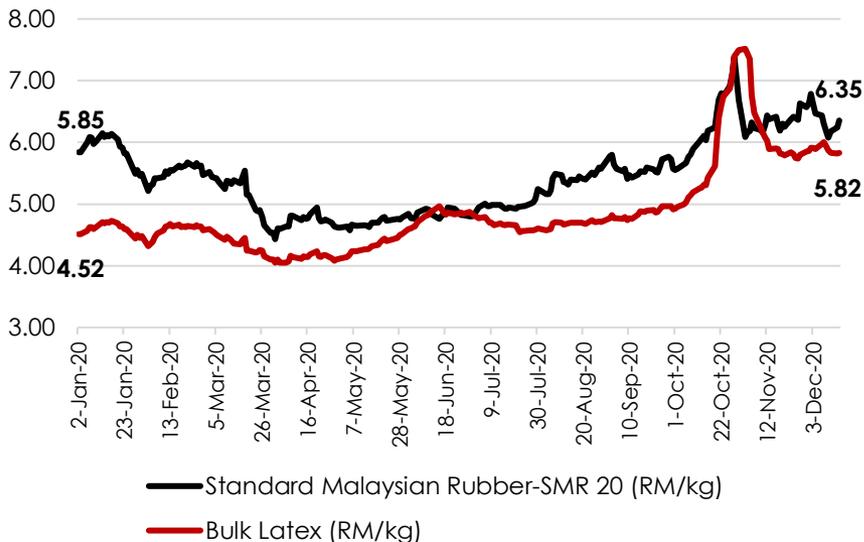
THE UNDERLYING ISSUE IN MALAYSIA'S NATURAL RUBBER INDUSTRY PARTICULARLY LATEX RUBBER



Difference between benchmark price and latex rubber price.

- ✓ The price of bulk latex which is lower than SMR 20 benchmark is a disincentive to produce latex.

Standard Malaysian Rubber Price vs. Bulk Latex Price (RM/kg)



Source: Malaysian Rubber Council
ECONOMIC RESEARCH

WHY IS MALAYSIA'S LATEX RUBBER PRODUCTION LOW?



Preferred mode of rubber production.

- ✓ Producing cup lumps is relative simpler process.

Latex Rubber Production	Cup Lump Rubber Production
More work as tapping is done in the morning and the latex is later collected in the afternoon.	Just requires tapping and leaving the latex to coagulate overnight.

Source: The Edge Markets Weekly

- ✓ Cup lump rubber is more cost efficient. The premium in farmgate prices of latex compared to cup lump does not justify the time and effort that is required in extracting the latex.

Average Farmgate Price of Rubber in Peninsular Malaysia (RM/kg)

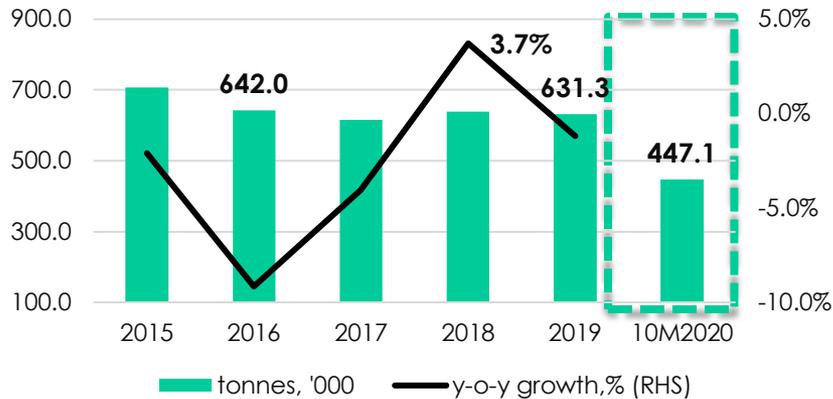
Year	Latex	Cuplump
2013	6.93	6.33
2014	4.89	4.26
2015	4.27	4.01
2016	5.31	4.42
2017	6.70	5.48
2018	4.43	4.01
2019	4.79	4.37
9M2020	4.74	3.89

Source: Malaysian Rubber Board

EXPORTS AND IMPORTS OF NATURAL RUBBER

✓ The lower scale of natural rubber production compared to the consumption of natural rubber in Malaysia has led to a higher imports of rubber than exports.

Exports performance



SMR

Weightage, %

10M2020: 96.2%

10M2019: 95.8%

Latex Concentrate

10M2020: 3.6%

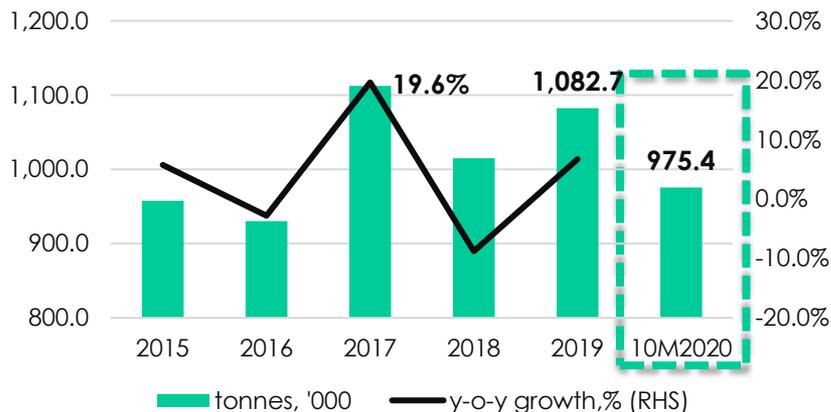
10M2019: 3.7%

Ribbed Smoke Sheet

10M2020: 0.1%

10M2019: 0.4%

Imports performance



Latex Concentrate

10M2020: 29.6%

10M2019: 31.4%

Standard Rubber

10M2020: 16.1%

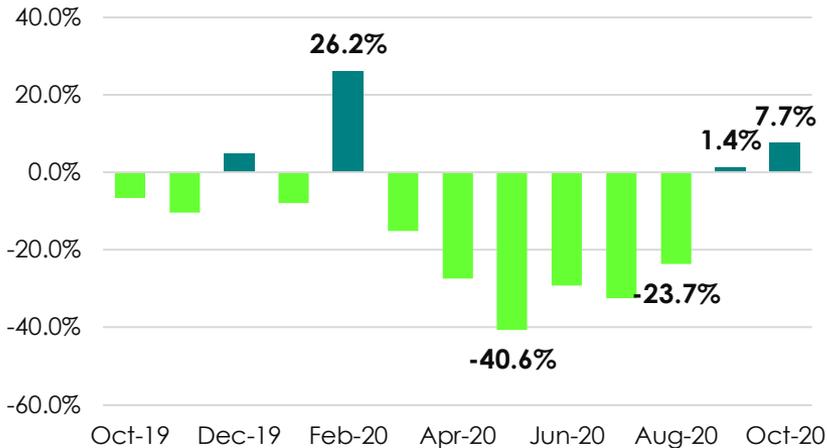
10M2019: 22.4%

Ribbed Smoke Sheet

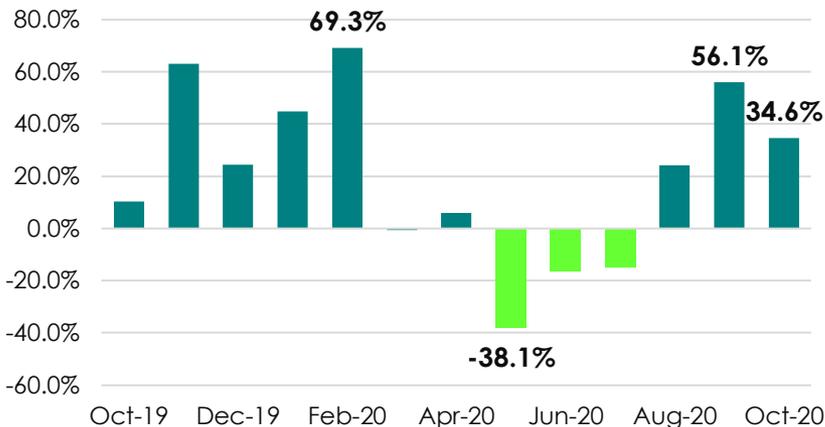
10M2020: 2.8%

10M2019: 4.6%

Exports, y-o-y%



Imports, y-o-y%



- ✓ Under further scrutiny, exports of natural rubber increased by 7.7% y-o-y in October from 1.4% growth in the previous month.
- ✓ This was mainly contributed by Standard Malaysian Rubber (SMR) exports (accounted for about 96.2%), particularly SMR 20 which rose by 21.3% in October from 12.0% in September.
- ✓ China (57.0%) and Germany (11.7%) were the major exports' destinations, followed by Finland (3.7%), Iran (3.3%) and Brazil (2.8%) in October.



October:
57.0%
September:
46.0%

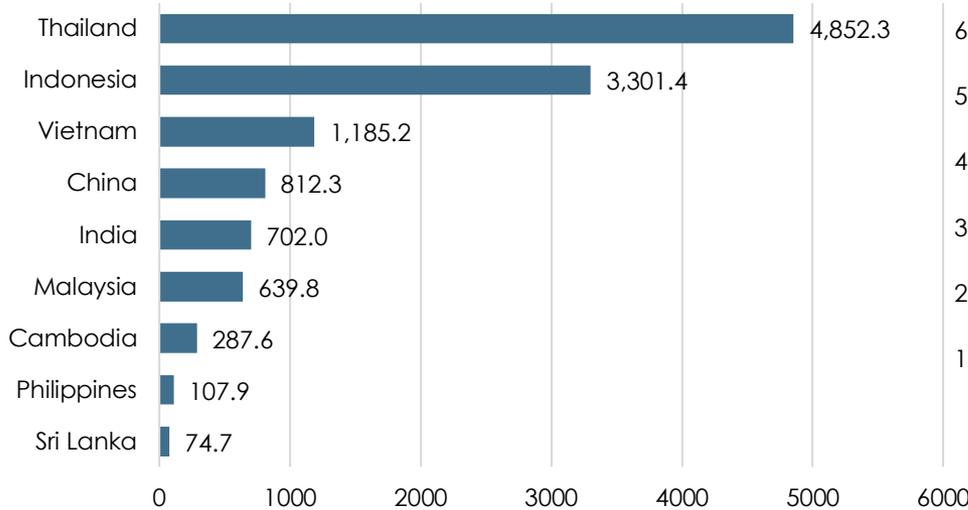


October:
11.7%
September:
13.2%

- ✓ Meanwhile, imports of natural rubber softened by 34.6% in October from 56.1% expansion in the preceding month.
- ✓ The main types of imported natural rubber were Latex Concentrate (October: 25.6% vs. September: 28.6%) and Standard Rubber (October: 19.1% vs. September: 19.1%).
- ✓ The current situation reflects that the rubber market is moving positively in tandem with the increase in natural rubber demand globally for manufacturing of gloves amid Covid-19 pandemic. Apart from that, most countries have gradually eased their lockdowns measures and reopened their economies, supporting factory production moving forward.

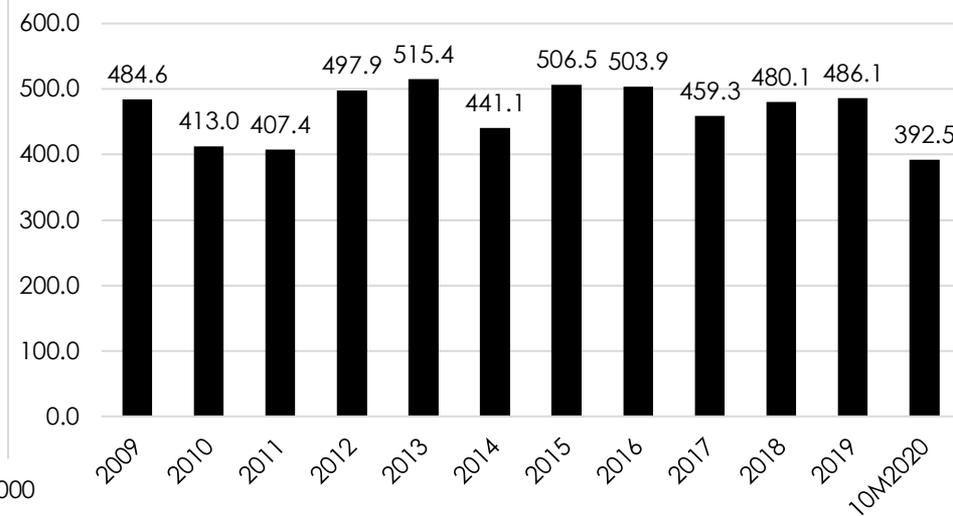
MALAYSIA'S DEPENDENCY ON THAILAND FOR NATURAL RUBBER SUPPLY

Production of Natural Rubber By Producing Countries in 2020 ('000 tonnes)



Source: DOSM

Malaysia's Natural Rubber Imported From Thailand ('000 Tonnes)



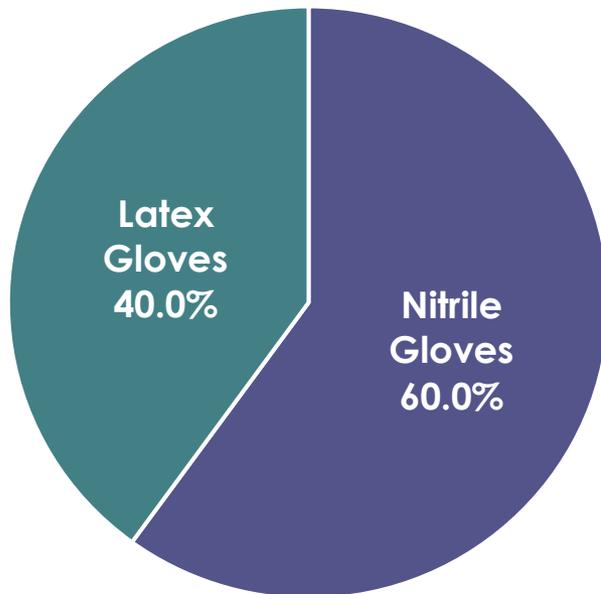
Source: Malaysian Rubber Board

- ✓ Among the main natural rubber producing countries, Thailand is the largest producer, producing nearly 4,852.3 thousand tonnes in 2019 (2018: 4,973.4 thousand tonnes).
- ✓ This is a huge difference compared to Malaysia which only produced 639.8 thousand tonnes of rubber in 2019 (2018: 603.3 thousand tonnes) .
- ✓ The Rubber Authority of Thailand has accelerated its rubber production to take advantage of the nation's abundant supply of natural rubber.
- ✓ As a result, Malaysia continues import natural rubber from Thailand (2019: 486.1 thousand tonnes vs. 2018: 480.1 thousand tonnes) due to the difficulty to obtain natural rubber supply locally.
- ✓ In this regard, Malaysia consumption of synthetic rubber has been rising at 14.2% 10-year CAGR in response to the lack of availability of natural rubber.

RUBBER GLOVE MAKERS ARE ALSO CONTRIBUTORS TO MALAYSIA'S DEPENDENCY THAILAND'S NATURAL RUBBER

- ✓ Currently, the production of Malaysian rubber glove makers is largely focused on nitrile gloves at 60.0% while latex gloves make up only 40.0% of overall production.
- ✓ With latex gloves making up a reasonable portion of rubber gloves production while Malaysia's latex production is low, the open concept in the rubber industry has enabled rubber glove makers to import latex from other countries at zero duty.
- ✓ Therefore, this has made it easier for rubber glove makers to import the latex that they require rather than sourcing it domestically.

Production Breakdown of Malaysian Rubber Glove Makers



Open Concept in the Rubber Industry



THE SILVER LINING FOR THE NATURAL RUBBER INDUSTRY – RUBBER GLOVE INDUSTRY

Upside Risks For Malaysian Natural Rubber In The Long Run

01

Thailand is aiming to expand its slice of the global market from 15.0% to 20.0% in the next 5 years owing to the current global demand.

Restrictions may then later be imposed on export of latex from Thailand to neighbouring countries.

02

03

Thailand may increase selling prices, knowing that glove manufacturers in Malaysia are dependent on its latex.

Therefore it is wise to ensure that most of the latex required by glove manufacturers is produced within Malaysia.

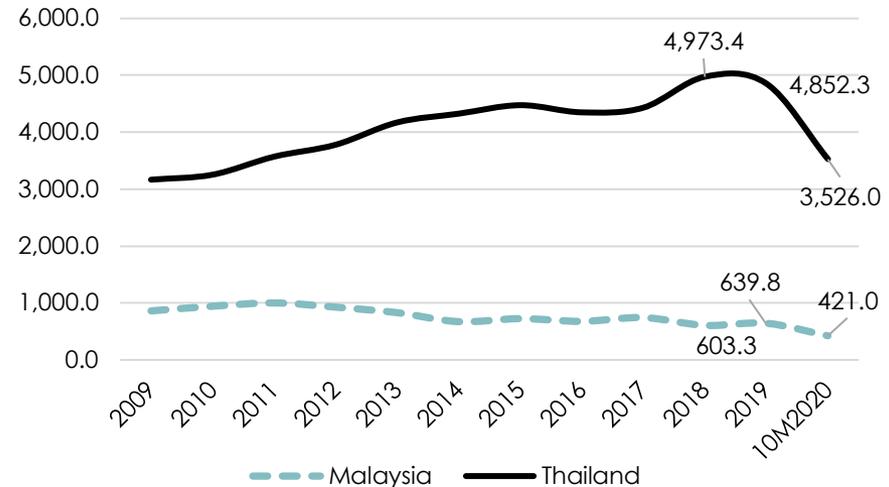
04

05

This can be done by rubber gloves makers through gradually committing a certain percentage of raw materials to local supply until the reliance on foreign sources decreases.

Upside Risks For Malaysian Natural Rubber In the Short Run

Thailand and Malaysia Natural Rubber Production ('000 tonnes)

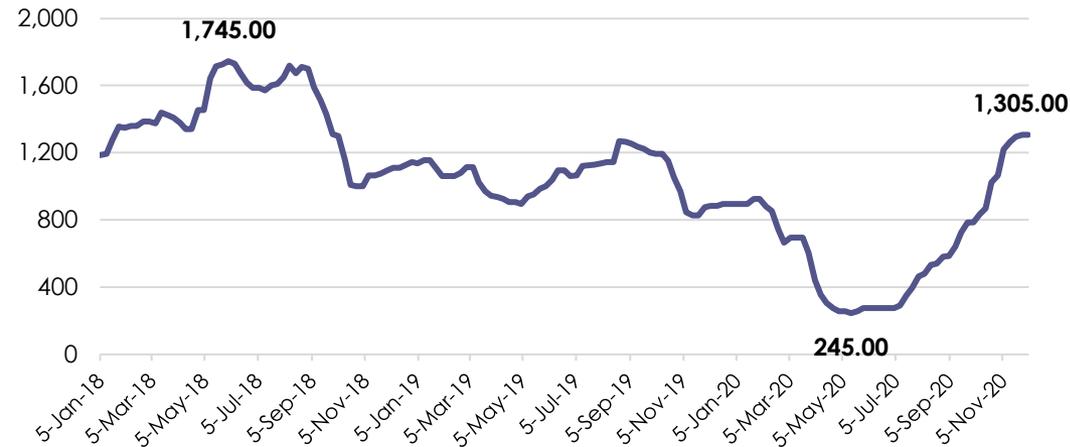


Sources: Malaysian Rubber Board, DOSM

- ✓ The new leaf fall disease in rubber plantations in Thailand seems to have started ringing alarm bells.
- ✓ The Rubber Authority of Thailand in November reported that the total affected area is 90,000 hectares with a loss of production potential running to 130,000 tonnes on an annual basis.
- ✓ The total natural rubber production in Thailand which was 5.1 million tonnes had come down to 4.9 million tonnes in 2019. It is expected to go down further to 4.4 million tonnes in 2020.
- ✓ Perhaps now is the time for Malaysia to fill up the gap due to the drop in natural rubber production in Thailand.

THE SILVER LINING FOR NATURAL RUBBER INDUSTRY – RUBBER GLOVE INDUSTRY

**Southeast Asia Butadiene Weekly Spot Price
(USD per metric tonne)**



**Butadiene Premium to Natural Rubber
(USD per metric tonne)**



- ✓ Costs of butadiene which is a key chemical compound for nitrile rubber gloves (synthetic) have been skyrocketing, rising by as much as 432.7% to USD1,305.00 per metric tonne (MT) on 4 December 2020 since the trough at USD245.00 per MT on 15 May 2020.
- ✓ This is further indicated by the butadiene premium to natural rubber which has hit USD334.11 per metric tonne on 11 December 2020 from USD71.66 per metric tonne on 29 October 2020.
- ✓ The rise of butadiene prices is driven by the tight supply of the raw material given huge global demand for gloves, causing the lead time for glove production to be longer compared to the period before the pandemic took place.
- ✓ Recall that 60.0% of rubber glove production by local rubber glove makers is focused on nitrile gloves. Therefore, higher butadiene costs will undoubtedly impact the cost of goods sold of nitrile-centric glove makers and potentially erode their margins if no cost pass-through to customers can be done.
- ✓ On the flip side, this warrants a shift in focus for rubber glove makers to switch to natural rubber gloves produced using latex rubber.
- ✓ Such scenario could serve as a major catalyst to boost the latex rubber production in Malaysia.

Source: Bloomberg

THE SILVER LINING FOR NATURAL RUBBER PRODUCTION- RUBBER GLOVE INDUSTRY

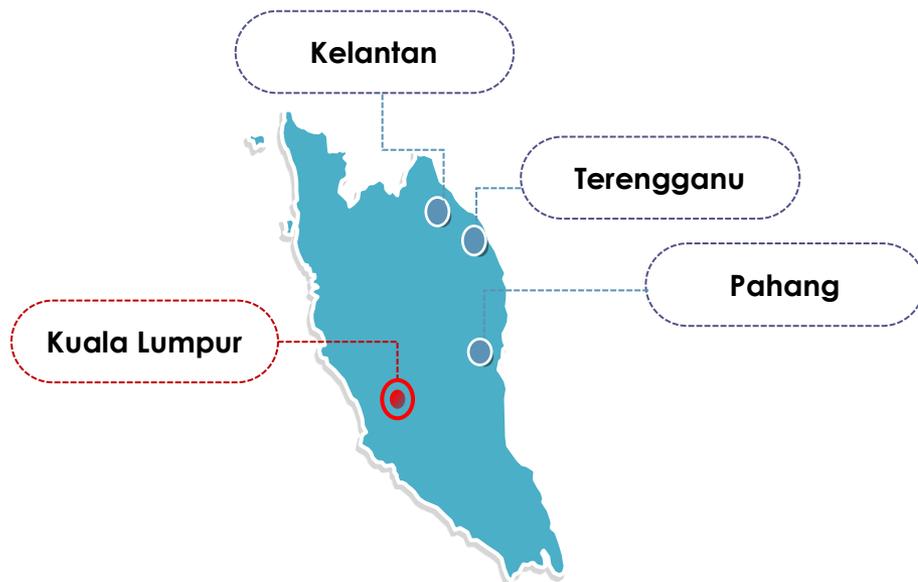
Capacity Breakdown of New Rubber Glove Manufacturers

Company	Targeted Capacity (billion pieces)	Estimated Commencement of Production	Approximate Capital Expenditure	Core Business
Mah Sing Group	3.7	2H2021	Not more than RM150.0 million	Property Developer
GPA	3.6	2H2021	RM150.0 million	Automotive Battery Manufacturing
Iconic Worldwide	3.1	October 2021	RM155.0 million	Property
AT Systemization	2.6	June 2021	RM120.0 million	Precision Engineering
Green Ocean	2.0	1H2021	Not Available	Palm Oil
MSCM	1.5	2Q2021	RM54.9 million	IT Solutions
Vizione	1.0	June 2021	RM30.0 million	Construction
Karex	0.5	3Q2021	RM40.0 million (for initial phase)	Condom Producer
Total Capacity	18.0			

Source: Bursa Malaysia company announcements

- ✓ Barriers to entry appears to be low. This has led other players from different industries contemplating to shift their business direction into rubber gloves. Based on some preliminary information on public listed companies that have disclosed their capacity expansion, we should reasonably expect at least 18.0 billion pieces per annum from these new entrants.
- ✓ This is excluding the likes of Kanger International, Titijaya Land, HLT Global and Inix Technologies that have declared the same intention but have not disclosed their capacity expansion plans. However, we think the new entrants will likely struggle to secure already tight nitrile butadiene rubber (NBR) supply; an issue that is plaguing the existing glove producers.
- ✓ Therefore, an emphasis towards the production of latex gloves cannot be discounted, providing an opportunity for latex rubber production in Malaysia to increase.
- ✓ By end of 2021, supply arising from the abovementioned new entrants which is estimated at 18.0 billion pieces per annum represents only 3.7% of global glove demand (485.0 billion pieces). Given the aforementioned factors, we think that the additional supply from these new entrants is not a concern for now in light the resurgence in Covid-19 cases which have caused some big players to shut down production temporarily.

Proposed Latex Corridor on the East Coast



Source: Free Malaysia Today

- ✓ In August 2020, the Malaysian Rubber Board plans to increase the production of latex by developing a national latex corridor along the east coast of Peninsular Malaysia.
- ✓ The rationale of the latex corridor is that the natural rubber industry needs to shift to new areas in Pahang, Kelantan and Terengganu from areas where the industry was concentrated in the past like Johor, Selangor and Perak.
- ✓ The latex corridor plan also entails shift the focus of rubber tappers to latex rubber which has a higher value and global demand compared to 'cup lump' rubber which was currently being planted.
- ✓ By focusing on the production of latex and not cup lump rubber, smallholders (rubber tappers) would enjoy the increase in the demand for rubber products and in the same vein address the incidence of poverty in the rubber plantations sector,

Budget 2021 Measures For Rubber Industry

Budget 2021	Allocation
Incentive for latex production which requires longer working hours compared to cup lump production that will be started in Pahang, Terengganu dan Kelantan.	RM16.0 million

Source: Budget 2021 Speech

THE SILVER LINING FOR NATURAL RUBBER INDUSTRY- AUTOMATION

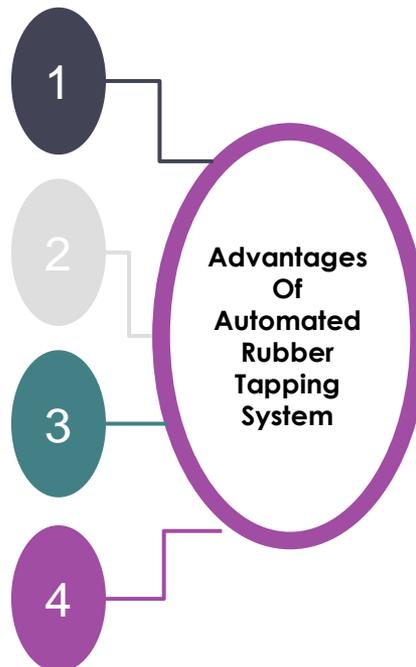
- ✓ The Malaysian Rubber Board announced the development of the patented automated rubber tapping systems (ARTS) in 2011 which was then acknowledged as the first of its kind in the world.
- ✓ ARTS is a tapping device that is attached to individual rubber trees which would tap the tree at pre-set intervals. All that's left for the rubber tapper is to collect the latex.

Requires minimal human movement and intervention which can address any shortage in manpower.

Rubber tappers can save their energy and time to do other tasks since this machine can operate independently.

The automated rubber tapping machine will only take 20 seconds to complete its task compared to manual tapping that can take approximately 45–50 seconds.

Furthermore, the tree's surface moisture level sensor and a rain sensor in the automated rubber tapping machine will avoid excess water in the clogged latex.



Automated Rubber Tapping Machine

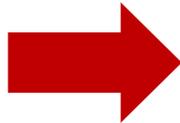


Source: International Conference on Technology, Engineering and Sciences

THE SILVER LINING FOR NATURAL RUBBER INDUSTRY- AUTOMATION

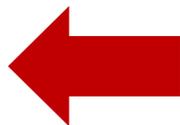
Cost of one unit of an automated rubber tapping machine: RM350

Each smallholder usually owns around 2 hectares of rubber tree plantation field.



Assuming each hectare of land requires 350 automated rubber tapping machines; each smallholder will have to spend a total of about RM122,500 per hectare!

Each hectare of land only yields around RM400 to RM500 based on prevailing rubber prices.



- ✓ Be that as it may, the adoption of ARTS has not reached a large scale in Malaysia.
- ✓ Costs remain a deterrent to apply ARTS as one machine costs about RM350 which means smallholders will have to fork out around RM122,500 per hectare assuming one hectare requires 350 machines .
- ✓ The payback period for the investment of ARTS will take ages and therefore would not be viable.
- ✓ Recall that more than 90.0% of the rubber planting are owned by smallholders which amount to over than 400,000.
- ✓ To address this issue, SMEs in the manufacturing sector could collaborate with the Malaysian Rubber Board and other authorities to design a version of ARTS which is more cost-effective.
- ✓ Overall, this does not just facilitate the efficiency in Malaysia's natural rubber production, but also push the GDP growth of SMEs which have been declining since 2017.

SMEs' GDP Growth (%)

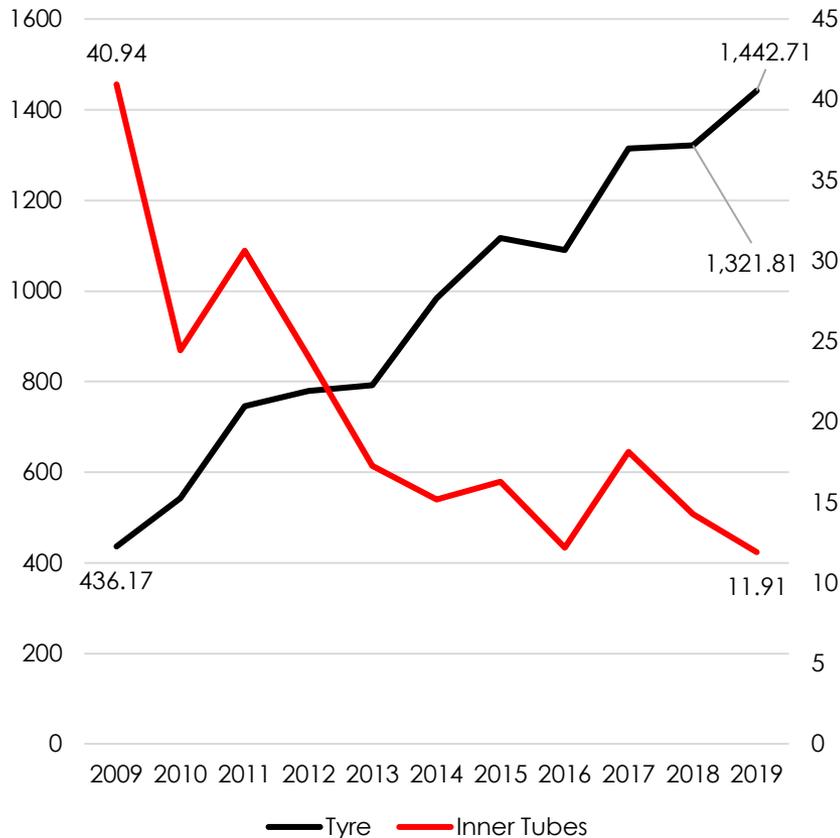


Source: Malaysian Rubber Board

Source: DOSM

THE SILVER LINING FOR NATURAL RUBBER INDUSTRY- AUTOMOTIVE INDUSTRY

Malaysia's Export of Tyre and Inner Tubes (RM Million)



Source: Malaysian Rubber Board

- ✓ Malaysia's natural rubber industry is in its positive trend largely boosted by surge in demand of rubber glove due to prolonged Covid-19 infection cases worldwide.
- ✓ The other reason why future of rubber industry is said to be bright partly bolstered by recovery of the automation sector amidst higher vehicle ownership across the globe coupled with the increase in production Electric Vehicles (EV).
- ✓ This can be seen in Malaysia's export of tyres which have increased significantly over the past 10 years with 12.7% 10-Y CAGR.
- ✓ In light of this, the automotive sector will likely push up the demand for natural rubber as it is one of the major materials needed in automobile manufacturing such as tyres, piping and tubing, as well as other rubber automotive parts. This will be expedited further via increased environment awareness. As an example, Japanese tyre manufacturer Bridgestone successfully made their first 100.0% natural rubber tyre in 2015.
- ✓ Be that as it may, Malaysia's tyre manufacturers might face challenges at the moment to meet the demands of the national automotive industry weighed by non-competitive raw material prices amid lower supplies of natural rubber.

BUTADIENE PRODUCTION TO KEEP RUBBER GLOVE MAKERS AT PEACE IN THE FUTURE



Source: Petronas's Press Release

- ✓ On the other hand, Petronas Chemicals Group Berhad (PCG) and LG Chem recently inked an agreement to build a Nitrile Butadiene Latex (NBL) manufacturing plant at Pengerang Integrated Complex (PIC) in Johor to target the growing nitrile glove market.
- ✓ Construction of the plant will begin in 2021 while production is scheduled to start in 2023.
- ✓ When completed, the plant will have an NBL production capacity of 200,000 tonnes annually.
- ✓ NBL is a synthetic rubber that uses butadiene as the main feedstock and is a core raw material for making nitrile gloves.
- ✓ It is currently widely used to complement existing natural rubber gloves due to its excellent intensity and chemical-resistance features.
- ✓ Therefore, if demand for nitrile gloves were to increase substantially in the coming future, Malaysian rubber glove makers focused on nitrile gloves will not face any difficulty in sourcing butadiene.



The Malaysian Rubber Board (MRB) is conducting various types of courses on aspects of upstream, midstream and downstream activities.

In 2006, the MRB had established **Academy Hevea Malaysia (AHM)** which aims:

- 1 To provide industry-oriented skills training for the rubber industry.
- 2 To produce adequate skilled manpower for the rubber industry.
- 3 To expedite technology transfer through technical training.

Application for the training programs are opened to all government agencies' staff, statutory bodies and private companies who are involved directly or indirectly in the rubber industry. Apart from that, individuals who are interested are also encouraged to participate.

Source: Malaysian Rubber Board



Academy Hevea Malaysia (AHM)

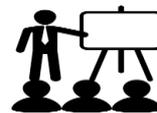
Vision

To be an institution of higher learning in producing skilled and excellent manpower related to the rubber industry.

Mission

To provide knowledge and training through continuous learning in line with the need of the rubber industry.

Bumiputera Rubber Industry Entrepreneurs Program (UBIG)



6 months entrepreneurial training



Joint networking program and guidance



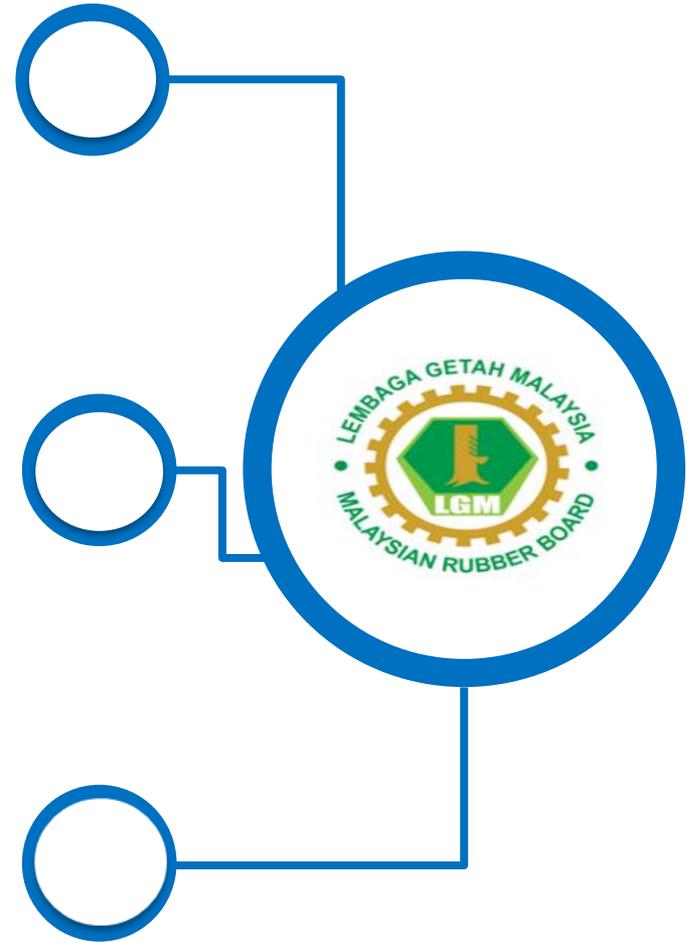
- ✓ MRB acts as an **advisor and product expert** – not as a business entity or business partner.
- ✓ There is no capital provided/ funds for the entrepreneurs – MRB expertise is for product technology.



- ✓ **Reduction of technology fees** to a reasonable rate. Thus far, licensing fees for about 3%-8% of R&D costs or as low as RM2,500 will be charged for each product involving royalty payment or profit sharing.



- ✓ **Establishment of “Consortium” or UBIG Cooperative by participants.**
- ✓ Participants will join one body to facilitate management and get MRB technical services.



Source: Malaysian Rubber Board

- ✓ There has been a disconnect between the production and consumption of natural rubber in Malaysia amid the act of manufacturers to source natural rubber from neighbouring countries due to the cheaper costs .
- ✓ With butadiene prices increasing due to the tight supply driven by the high demand for rubber gloves, we believe there is a strong case to revisit the upstream rubber industry that is mainly related to natural rubber.
- ✓ Aside from that, opportunities for smallholders to expand their production to support industrial production such as gloves will allow effective integration between the upstream and downstream industries. This is especially true when rubber gloves players are the main consumer of natural rubber.
- ✓ All in all, comprehensive policy support would be the key prerequisite with the likes of the Malaysian Rubber Board which has introduced initiatives to facilitate the groups such as Small Medium Enterprises (SMEs) to leapfrog their entrance into the industry.
- ✓ From Bank Islam's perspective, the opportunities unveiled for the natural rubber industry provides a strong case to widen the clientele in the said industry.

THANK YOU

Bank Islam ensures that social and environmental considerations are consistently its top priority governed by the Bank's core values and Shariah principles. More initiatives will be developed by the Bank as the Bank strives to make a positive difference for its financial and social performance.

Assuring Trust. Delivering Value

