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STRETCH

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MITIGATING INDONESIA'S EARTHQUAKE RISKS

MREPC CONDUCTED A SPECIAL MISSION TO
INDONESIA TO ENCOURAGE THE USE OF
HIGH-DAMPING NATURAL RUBBER BEARINGS

**A SNAPSHOT OF THE
MALAYSIAN ECONOMY**

MALCORP:
COLLABORATING FOR
GREATER SUCCESS

**DETECTING LATEX
PROTEIN ALLERGENS
WITH LATEX-T**

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- International AIDS Conference 2016
- FIME 2016
- Semicon West 2016

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MESSAGE FROM THE CEO

LEVERAGING ON DIGITAL



TODAY we are in the thick of the digital economy, where technology and cyber-innovation are reshaping the business landscape. Globally, digital behemoths are emerging as market dominants, the likes of Alphabet, Apple and Alibaba outpacing legacy companies such as oil titans Esso and Shell.

It is no different in the rubber industry, where digital strategies and platforms will eventually differentiate the best from the rest. Malaysian rubber product manufacturers must invest in digital and integrate innovations such as big data, analytics, machine learning, robotics, and automation into traditional rubber business models to sustain our edge in rubber product exports. As the agency spearheading the rubber product exports sector, MREPC is championing technology and automation as a key strategy for long-term sustainability. Pertinently, we recommend that companies invest in robotics and automation to reduce reliance on unskilled foreign labour and upskill local talent, which is aligned with the national economic transformation agenda.

With this in mind, at end-March 2017, MREPC led a delegation comprising industry participants to visit some manufacturing facilities in Germany and the Netherlands to learn the latest technologies in robotics and automation. The delegation came away convinced that though the initial investment in robotics and automation can be fairly costly, it can bring benefits in the long-term to boost efficiency and productivity.

We also recommend that companies adopt best practices in digital

development in order to overcome resource constraints and elevate productivity. Importantly, a digital strategy will mitigate constraints, improve productivity holistically and enable Malaysia to leverage the upswing in global demand for rubber. Prospects of better global growth for 2017 signal a potential recovery in demand, as evidenced by the improved export performance of rubber products during the first quarter of 2017, which registered a 19.9% growth year-on-year.

Going forward, MREPC will continue to vigorously assist the industry to further expand exports. In 2016, rubber product exports reached a record high of RM18.2 billion despite weak external demand. Significantly, Malaysia maintained its dominance in the global rubber glove export markets, and defended its position as a top global exporter of condoms and catheters.

But we cannot afford to be complacent. Competition and uncertainty are increasing at an unprecedented scale, meaning that we face business unusual, not business as

usual. As digital becomes embedded in the business DNA, MREPC will use digital platforms more extensively to facilitate deeper and broader market promotion programmes. Apart from participating in trade fairs to promote Malaysian rubber products, MREPC will undertake specialised marketing visits and missions to promote rubber products.

Forging ahead, MREPC is focusing on market diversification while strengthening existing export segments. While continuing to promote exports of leading latex products such as rubber gloves, condoms and catheters, we will increasingly focus on growing exports of dry rubber products, particularly automotive parts and seismic bearings. We are collaborating with MALCORP (Malaysian Consortium of Rubber Products) whose mission is to increase exports of rubber automotive parts and industrial hoses. This issue also features how MREPC is working closely with MALCORP to promote its brand and products and grow international market share.

Additionally, we will refine our marketing promotion strategies to bring up other rubber products with huge export potential. Key to our strategy is to identify different-tier and emerging companies and support their export growth, so that they in turn can become global champions and market leaders. Our ultimate goal is to expand our roster of homegrown champions, defend and strengthen Malaysia's strategic position in rubber. The export performance of rubber products at the start of 2017 looks encouraging. The industry should thus seize the upswing in global demand to expand exports. With the untiring efforts of MREPC to support the industry, we look forward to a better rubber export performance in 2017.



Low Yoke Kiew
Chief Executive Officer, MREPC



MREPC seminar on HDNRB held in Medan, Indonesia attracted close to 100 participants.

MITIGATING INDONESIA'S EARTHQUAKE RISKS

MREPC CONDUCTED A SPECIAL MISSION TO INDONESIA TO ENCOURAGE THE USE OF HIGH-DAMPING NATURAL RUBBER BEARINGS TO HELP MANAGE EARTHQUAKE RISKS

DESPITE Indonesia's construction boom, and the island nation's exposure to high-seismic activity, the application of High-Damping Natural Rubber Bearings (HDNRB) as an earthquake risk-management solution is relatively low. Buildings typically use cheaper alternatives without incorporating seismic devices although these are already available in the market.

As part of its efforts to create awareness and promote made-in-Malaysia rubber products – particularly HDNRB which can mitigate earthquake impacts – MREPC conducted a special mission to Indonesia focusing on engineered rubber products, led by MREPC CEO Ms. Low Yoke Kiew.

Integral to the mission were two seminars held in Jakarta and Medan on 27 and 29 April 2017, respectively. The theme of the seminars was "Risk Mitigation Against Earthquakes Through High-Damping Technology."

BUILDING AWARENESS AND BUSINESS MATCHING IN JAKARTA

The seminar in Jakarta was well attended, with a total of 65 participants and featured Zhamshari Shaharan, Deputy Chief of the Malaysian Mission, as a guest of honour, as well as two Indonesian speakers and two Malaysian speakers.

Professor Dr. Ir. Masyhur Irsyam, Head of Research Centre for Disaster

Mitigation of Institut Teknologi Bandung, provided updates on the "Seismic Conditions and Seismic Hazard Map of Indonesia 2016."

Ir. Davy Sukamta, President of Himpunan Ahli Konstruksi Indonesia (HAKI) and President/Director of Davy Sukamta & Partners, presented a paper on "Design and Construction of High-Rise Buildings with Seismic Isolation System – Indonesian Experience."

Dr. Patrick Tiong, Head of Seismology and Earthquake Engineering, Doshin Rubber Products, spoke on how earthquake damage to buildings could be effectively mitigated by the application of HDNRB, in his paper entitled "HDRB and EDS in High-Rise Buildings." Mr. Or Tan Teng, Managing Director of Doshin, addressed the financial consideration involved in implementing base-isolation systems, in his presentation "Cost Reduction Through Base Isolation."

A business-matching session



A business meeting between Doshin Rubber and a potential Indonesian buyer was arranged by MREPC after the seminar.



Speakers from Malaysia and Indonesia (from left): Dr. Ir. Daniel Teruna of PT Rekayasa Damper Pratama Consultant, Dr. Shamsul Kamaruddin of Malaysian Rubber Board and Mr. Jimmy Seng of Doshin Rubber.

then followed, with MREPC bringing together potential Indonesian buyers and Doshin Rubber Products on one platform.

BUILDING AWARENESS IN MEDAN

The Medan seminar attracted 98 participants, and featured the Consul-General of Malaysia in Medan, Amizal Fadzli Rajali, as the guest of honour. Both Indonesian and Malaysian speakers presented a total of six topics.

Dr. Ade Faisal, Head of Civil Engineering, Universitas Muhammadiyah Sumatera Utara, spoke on "Seismic Design Code in Indonesia" while Ir. Nurjulisman, Head II of the Indonesian Engineers Society of Wind And Earthquake Resistant Structures, delivered a paper on "Development of Seismic Design Concept for Long Bridges with Tall Piers." Dr. Ir. Daniel Teruna, Structural Engineer, PT Rekayasa Damper Pratama Consultant, spoke about "The Role and Mechanisms of High - Damping Technology for Improving

Seismic Performance of Structures."

On the Malaysian side, Dr. Shamsul Kamaruddin, Senior Research Officer, Technology & Engineering Division, Malaysian Rubber Board, spoke on "Technical Qualities of NR as a Base Material for Rubber Seismic Bearings." Dr. Tiong of Doshin, and Mr. Jimmy Seng, Doshin's Assistant Technical Manager, explained Doshin's proprietary HDNRB solutions and spoke on how companies applying base-isolation systems could enjoy significant cost reduction.

POISED FOR EXPANSION

The mission to Indonesia was highly beneficial. Firstly, it enabled MREPC and Malaysian rubber products exporters to assess the country's market size and demand for HDNRB; secondly, it demonstrated that Malaysian rubber products for this niche market are competitive, innovative and offer excellent cost-effective alternatives for seismic isolation systems and earthquake risk management. Doshin's representatives

enjoyed excellent rapport with the Indonesian audience and business-matching partners. There were several enquiries about HDNRB, and Doshin's product brochures were in great demand.

Moving forward, Doshin is carefully formulating its pricing and market strategy to grow markets and exports and to support its customers, especially those in emerging markets such as Indonesia.

Malaysia's Consul-General in Medan, Amizal Fadzli Rajali, noted the huge potential of HDNRB in earthquake-prone Aceh Province. The construction of a mosque in Aceh, which will be fitted with HDNRB, is currently undertaken by a Malaysian company. Much hope is pinned on the project to showcase the usefulness of HDNRB to mitigate earthquakes and encourage greater use of HDNRB in other construction projects in Indonesia.

At the same time, Malaysia and MREPC will continue to invest efforts in growing and expanding the customer base for the innovative HDNRB solutions, which in turn will support overall efforts to expand exports of Malaysian rubber products. Possible future strategies will be to market HDNRB to construction projects which are being undertaken by Malaysian companies in Sumatra, and exploring opportunities for collaboration on earthquake risk-management solutions with the government of Sumatra.



Participants at MREPC Seminar on HDNRB in Jakarta, Indonesia.

A SNAPSHOT OF THE MALAYSIAN ECONOMY



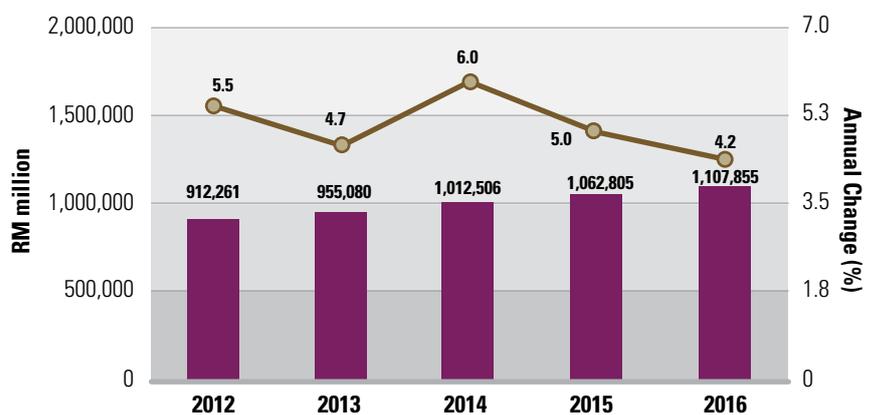
GROWTH IN 2016 DRIVEN BY DOMESTIC DEMAND

The Malaysian economy remained resilient, expanding 4.2% in 2016 despite a more challenging external environment. The challenges included slower global growth and trade, weak commodity prices, political and policy uncertainties in advanced economies as well as volatile financial and foreign exchange markets. On the domestic front, the economy was confronted by the higher cost of living and increased volatility in the financial market, including a weaker ringgit.

The growth of the Malaysian

economy was supported by continued expansion in domestic demand and positive net exports. Growth of private consumption was sustained at 6.1% in 2016 (2015: 6%) amid continued wage growth and stable labour market conditions. Public consumption growth, however, moderated to 1% (2015: 4.4%) in line with the government's efforts to rein in expenditure. Private investment growth moderated to 4.4% (2015: 6.4%) due to the subdued business environment, while public investment growth recorded a smaller decrease of 0.5% (2015: -1%) on improved capital spending by public

REAL GDP VALUE AND GROWTH RATE



Source: Department of Statistics, Malaysia

■ Value — Growth Rate

REAL GDP BY SECTOR

Sector	2015	2016	2016	Q1 2017
	Annual change (%)		% of GDP	Annual change (%)
Services	5.1	5.6	54.2	5.8
Manufacturing	4.9	4.4	23.0	5.6
Mining and quarrying	4.7	2.7	8.8	1.6
Agriculture	1.2	-5.1	8.1	8.3
Construction	8.2	7.4	4.5	6.5
Real GDP	5.0	4.2	100.0¹	5.6

¹ Figures may not necessarily add up due to rounding and exclusion of the import duties component

Source: Department of Statistics, Malaysia

corporations.

Growth of the Malaysian economy accelerated to 5.6% in the first quarter of 2017, the fastest pace since Q1 2015. Growth was driven by stronger private consumption and investment and rising exports.

POSITIVE GROWTH FOR ALL SECTORS EXCEPT AGRICULTURE

On the supply side, all sectors recorded positive growth except the agriculture sector. The services sector grew at a stronger pace of 5.6% in 2016 (2015: 5.1%) supported by consumption and trade-related activity. The manufacturing sector grew by 4.4% (2015: 4.9%) bolstered by the expansion of both the export- and domestic-oriented industries. The performance of the export-oriented industries was mainly driven by the higher output of electronics and electrical (E&E) and petrochemical products. Although

weighed down by the motor vehicle segment, growth of the domestic-oriented industries was bolstered by higher output of food products and construction-related materials.

The construction sector grew by 7.4% in 2016 (2015: 8.2%) as the decline in the non-residential subsector, mainly office and retail properties, weighed on the civil engineering and residential subsectors. The civil engineering subsector was supported by higher activity in the transportation, petrochemical and utility segments, while the residential subsector was supported by service apartment and affordable housing projects.

The mining sector grew at a moderate pace of 2.7% (2015: 4.7%) on slower production of crude oil. The agriculture sector contracted by 5.1% (2015: 1.2%) mainly due to the decline in crude palm oil production which was affected by the EL Nino weather

phenomenon.

In Q1 2017, all economic sectors registered strong growth, except for mining.

EXTERNAL TRADE MODERATES IN 2016

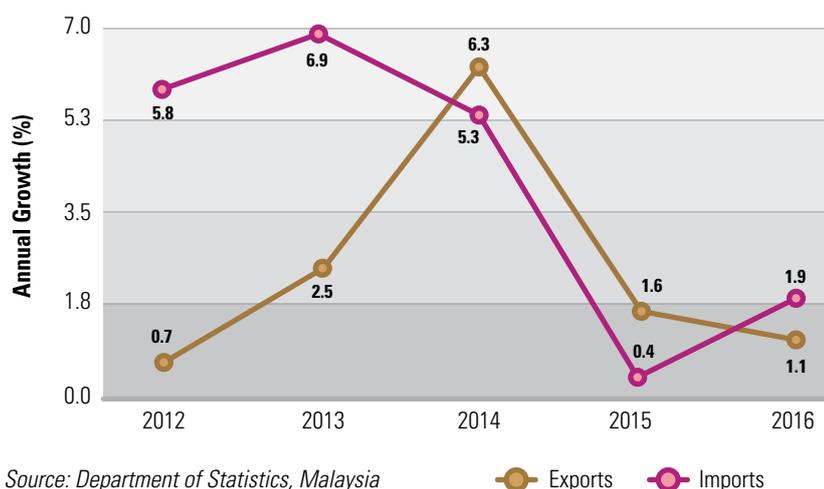
Gross exports grew by 1.1% in 2016 (2015: 1.6%), the slowest pace since 2012, due to modest demand from some major trading partners and weak commodity prices. Exports to China declined by 2.9% on lower exports of commodities and non-resource based products, while exports to Japan fell by 12.9% due to weak demand for liquefied natural gas. However, exports to the US rose by 8.9% driven mainly by semiconductors, while exports to ASEAN grew by 5.4% on strong demand for E&E and petroleum products. Meanwhile, gross imports increased at a faster pace of 1.9% (2015: 0.4%) largely due to higher imports of capital goods for infrastructure projects and investment activity. With import growth outpacing that of exports, the trade surplus narrowed to RM87.3 billion (2015: RM91.6 billion).

In Q1 2017, exports surged by 21.4% driven by double-digit growth of manufactured (19.5%), mining (25.5%) and agriculture (26.6%) goods. Exports of rubber products also recorded strong growth of 19.9% during the quarter.

ECONOMY REMAINS IN FULL EMPLOYMENT

The economy remained in full employment in 2016 despite the

EXPORT AND IMPORT PERFORMANCE

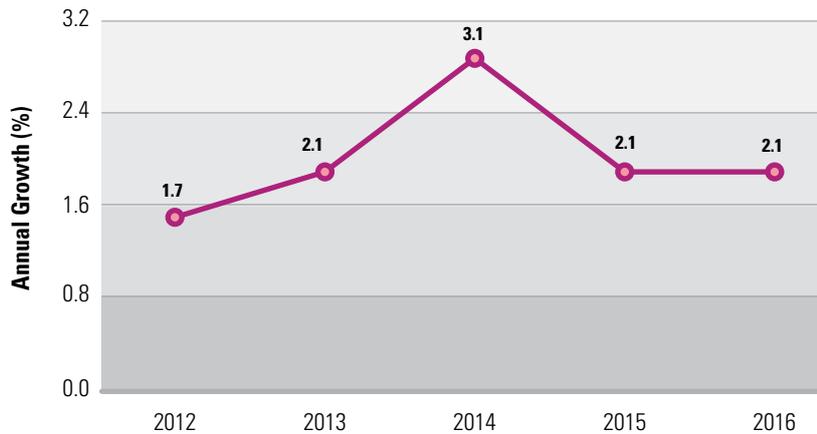


Source: Department of Statistics, Malaysia

— Exports — Imports

ECONOMY

CONSUMER PRICE INFLATION



Source: Department of Statistics, Malaysia

increase in the unemployment rate to 3.5% (2015: 3.1%). The slower increase in employment was due to employers being more cautious in expanding their workforce amid the moderate economic growth.

Labour market conditions remained stable in Q1 2017 with the unemployment rate at 3.5%.

INFLATION REMAINS MANAGEABLE

Headline inflation, which is measured by the annual change in the Consumer Price Index, remained at 2.1% in 2016 (2015: 2.1%). Inflation was largely due to upward price adjustments to items such as electricity tariffs and cooking oil, but was mitigated by lower fuel pump prices. Inflation rose to 4.3% in Q1 2017 on higher fuel and food prices. This was the highest quarterly increase in two years.

OUTLOOK FOR 2017

The Malaysian economy is expected to benefit from the improvement in global economic growth and trade in 2017. The International Monetary Fund in its April 2017 World Economic Outlook projects global growth and trade to improve to 3.5% and 3.8% in 2017 respectively (2016: 3.1%; 2.2%). Based on the better global outlook and continued growth in domestic demand, Bank Negara Malaysia projects the Malaysian economy to expand

between 4.3% - 4.8% in 2017 (2016: 4.2%).

Growth will continue to be driven by domestic demand, particularly private consumption, supported by stable labour market conditions and continued wage growth. On the supply side, all economic sectors are expected to register positive growth, with the services and manufacturing sectors continuing to spearhead growth.

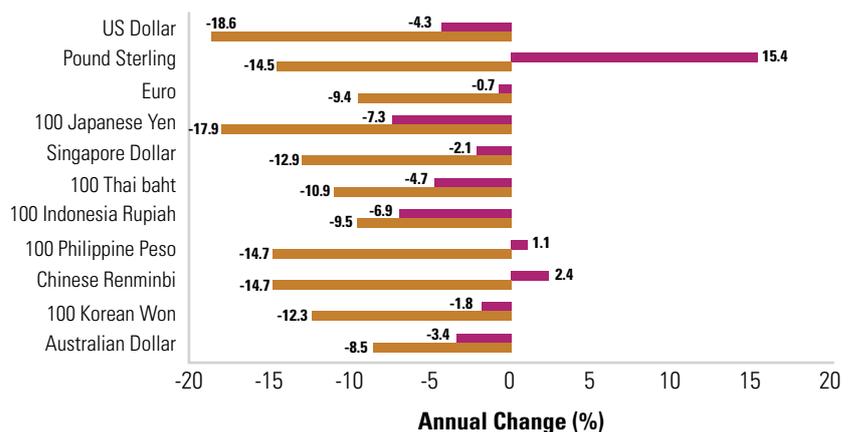
Going forward, based on the strong growth of 5.6% in Q1 2017, the Malaysian economy is on track to achieve the growth target of 4.3% to 4.8% for 2017. Growth will be supported by resilient domestic demand and improving external trade.

RINGGIT DEPRECIATES

The ringgit was affected by shifts in portfolio flows due to several external developments during 2016. These included expectations of higher interest rates in the US; volatility in global crude oil prices; heightened geopolitical uncertainty following Brexit; and policy uncertainty affecting exporting countries following the outcome of the US presidential election. The ringgit also experienced higher volatility due to the supply and demand imbalances in the domestic foreign exchange market following slower or non-conversion of export proceeds and increased demand for foreign currencies when Malaysian companies invest abroad.

The ringgit firmed up by 1.3% to RM4.4265 against the US dollar as at end-March 2017. The ringgit was supported by foreign capital inflows in the equity market, stronger exports and the stabilisation measures by Bank Negara Malaysia.

PERFORMANCE OF RINGGIT AGAINST SELECTED CURRENCIES



Source: Bank Negara Malaysia

2015 2016

MALAYSIA'S TRADE IN RUBBER PRODUCTS

JANUARY – DECEMBER 2016

DESPITE weak global economic conditions, Malaysia maintained a healthy trade performance in rubber products for 2016. Total exports reached RM18.2 billion in 2016, an increase of 0.9% from 2015.

Overall, latex goods were the largest subsector contributing RM14.6 billion to total export revenue in 2016. Latex goods, general rubber goods, industrial rubber goods and footwear subsectors all recorded increases

in 2016 compared to 2015.

Gloves continued to dominate as the largest rubber product export segment, accounting for 73% of total exports of rubber products in 2016.

Commendably, the key export segments of footwear, seals and gaskets, and foam products all recorded double-digit growth in 2016. MREPC will thus continue to invest resources in growing these high-potential segments in 2017.

For 2016, the US maintained its ranking as the largest export destination for Malaysian rubber products. EU, ASEAN, China, Brazil and Russia remained among the top 10 destinations, with exports to these key markets recording high growths.

Going forward, MREPC will continue its diversification efforts to strengthen and expand Malaysia's presence in existing markets as well as penetrate new emerging destinations.

MALAYSIA'S EXPORTS AND IMPORTS OF RUBBER PRODUCTS (RM MILLION)

Product Category	Exports		Imports	
	2015	2016	2015	2016
Latex Goods	14,636.0	14,642.5	759.4	641.7
General Rubber Goods	1,109.9	1,178.8	1,001.1	1,088.5
Tyres	1,118.2	1,090.5	2,148.5	2,057.3
Industrial Rubber Goods	721.9	736.6	620.2	683.0
Footwear	386.0	493.7	1,404.0	2,037.0
Inner Tubes	16.3	12.1	82.4	87.9
Total¹	17,988.3	18,154.2	6,015.7	6,595.4
% Change	0.9%		9.6%	

¹ Figures may not necessarily add up due to rounding

Source: Department of Statistics, Malaysia

TRADE PERFORMANCE

TOP 10 KEY RUBBER PRODUCT EXPORTS (RM MILLION)

Rubber Products	2015	2016	% Change	% Share (2016)
Gloves	13,097.0	13,281.4	1.4	73.2
New Pneumatic Tyres	1,059.4	1,042.0	-1.6	5.7
Tubes, Pipes And Hoses	656.3	666.0	1.5	3.7
Latex Thread	515.9	520.5	0.9	2.9
Footwear	386.0	493.7	27.9	2.7
Condoms	431.0	388.5	-9.9	2.1
Other Articles Of Unhardened Vulcanised Rubber	299.2	308.2	3.0	1.7
Catheters	311.2	201.9	-35.1	1.1
Seals And Gaskets	137.3	183.3	33.5	1.0
Foam Products	106.9	119.4	11.7	0.7
Others*	988.2	949.1	-4.0	5.2
Total¹	17,988.3	18,154.2	0.9	100.0

¹ Figures may not necessarily add up due to rounding

Source: Department of Statistics, Malaysia

* Others include precured tread, plates, sheets and strips, automotive parts, floor mats, fenders and beltings.



TOP 10 EXPORT DESTINATIONS OF MALAYSIA'S RUBBER PRODUCTS (RM MILLION)

Countries	2015	2016	% Change	% Share (2016)
USA	5,184.9	5,127.4	-1.1	28.2
EU-28	4,431.9	4,504.0	1.6	24.8
ASEAN	1,575.2	1,655.5	5.1	9.1
Japan	1,092.8	1,087.0	-0.5	6.0
China	771.4	841.8	9.1	4.6
Brazil	561.9	633.2	12.7	3.5
Australia	656.0	593.8	-9.5	3.3
Canada	345.2	355.6	3.0	2.0
Russia	203.4	327.8	61.2	1.8
South Korea	273.6	278.3	1.7	1.5
Subtotal	15,096.2	15,404.4	2.0	84.8
World Total¹	17,988.3	18,154.2	0.9	100.0

¹ Figures may not necessarily add up due to rounding

Source: Department of Statistics, Malaysia

BEARING UP WELL UNDER PRESSURE

ONE OF THE PIONEER MANUFACTURERS OF CIVIL ENGINEERING RUBBER PRODUCTS IN MALAYSIA, DOSHIN RUBBER IS GAINING INCREASING RECOGNITION FOR ITS HIGH-DAMPING RUBBER BEARINGS, AN INNOVATION IN THE FIELD OF VIBRATION AND EARTHQUAKE ENGINEERING

DOSHIN Rubber has been focusing on and expanding the development of advanced-engineering rubber products especially for use in the field of vibration and earthquake engineering, such as High-Damping Rubber Bearings (HDRBs) which are used to mitigate the effects of earthquakes. Backed by intensive innovation and

FEATURES

a legacy of forty years' experience, Doshin has successfully developed and marketed HDRBs, which are part of an extensive, heavy industry-oriented product range including marine dock fenders, bridge expansion joints, rubber panels, laminated bridge bearing pads and strips

REDUCING VIBRATIONS

What exactly are HDRBs? "These are a simple, cost-effective, maintenance-free means of providing the isolation interface for the base or seismic isolation technique," said Or Tan Teng, Doshin Rubber's Managing Director. "They can be designed to withstand the vibrational effects of earthquakes and lessen structural damage." As earthquakes are vibrational in nature, isolating the building from the vibration protects it – as well as its contents and occupants – from the force of the earthquake. Base (or seismic) isolation is a passive structural control technique that decouples or isolates a building from its foundation and protects its structural integrity. HDRBs produced by Doshin for the protection of buildings in earthquakes have been installed in buildings and bridges in Malaysia and abroad.

"The HDRBs consist of alternating layers of rubber and steel," Or explained. "Steel plates greatly increase the vertical stiffness of the bearing; a ratio of around 800:1 between vertical and horizontal stiffness is typical. These

***DOSHIN** has invested in highly sophisticated testing equipment – considered the largest in Asia – which has been fabricated to withstand compression force of 5,000 tons and shear displacement of 1,000mm. Doshin is the only manufacturer in the world which has been able to produce HDRBs with an equivalent viscous damping of more than 22%.*

plates enable the bearing to support the vertical load even under a large shear displacement." A strong bond between the rubber and steel is critical to the correct functioning of the bearing. "The rubber – usually a compound based on natural rubber – is specially formulated to give the required damping," he added. "Seismic or base isolation will reduce the force on the structure and isolate it from the damaging vibrations from the ground."

Isolation is achieved with specially-designed bearings (i.e. HDRBs) placed between the building and its foundations that provide flexibility and energy absorption capability while supporting the weight of the structure. These bearings can be replaced if the need arises. "Seismic or base isolation is a design technique that reduces the force demand on structures by isolating them from the damaging effect of the ground motion," he continued. "It functions primarily by lengthening the period of vibration of the structure."

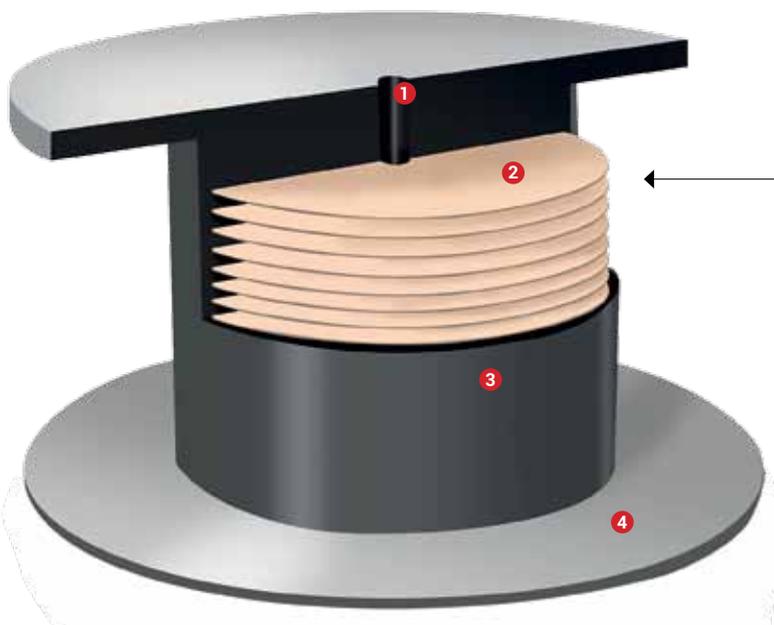
INNOVATIVE DESIGN

While conventional designs usually rely on inelastic actions of various structural elements to dissipate earthquake energy, Doshin Rubber's HDRBs form a simple, economical isolation system. The damping required to limit the displacement of the structure and reduce the isolation frequency is incorporated into the rubber compound so that auxiliary dissipation devices will generally not be needed. The adoption of the base isolation method is growing in all seismic-prone countries worldwide, and the overall market demand for anti-seismic devices – for buildings, bridges and industrial facilities – account for several thousand units annually.

Base isolation can be applied to new structural designs and seismic retrofit. Some buildings in San Francisco and Los Angeles in the US, and Wellington and Christchurch in New Zealand, have applied it successfully and to great effect. In fact, the Christchurch Women's Hospital, the only base-isolated

High-Damping Rubber Bearing

- 1 Central Hole
- 2 Steel Shim
- 3 Rubber Layer
- 4 Loading Plate





Or Tan Teng, Managing Director of Doshin Rubber.

building on New Zealand's South Island, did not suffer any structural damage in the 2011 earthquake.

In Malaysia, HDRBs were installed in the Second Penang Bridge, the longest bridge in the world to be mounted with over 2,000 pieces of HDRBs. In Indonesia, Doshin's patented Ultra-HDRB System has been used in isolating a university hospital and the Wika Tower in Jakarta – the first time a system utilising natural rubber compound with ultra-high damping ratio, without the help of other devices, has ever been used to achieve satisfactory performance.

FOCUS ON R&D

Doshin's leadership in HDRBs can be attributed to its attention on industrial R&D. "Doshin is a leader in the design and production of rubber items," said Or. "This stems from our efforts in scientific research, engineering design and constant material and product development." The company is proactive about keeping its finger on the pulse of the industry and the market. Research findings, material development and continuous improvements in the design of anti-seismic components, have put it ahead of its competitors. "We constantly explore new methods of manufacturing as well," added Or. "Not only do we design new components, we find ways of optimising the component's properties, so that its use can be

diversified. Our clients can also avail themselves to our wide range of technical and after-sales support."

Doshin combines state-of-the-art technology with the expertise of its experienced professionals to produce innovative products and solutions to match clients' most demanding challenges. Stringent quality control ensures its entire production chain is efficiently managed, from rubber compound batching, to end-product devices. All items undergo rigorous testing in the company's laboratory, which is one of the most comprehensive test facilities in the world. It has invested in highly

***DOSHIN** combines state-of-the-art technology with the expertise of its experienced professionals to produce innovative products and solutions to match clients' most demanding challenges. Stringent quality control ensures its entire production chain is efficiently managed, from rubber compound batching, to end-product devices.*

sophisticated testing equipment – considered the largest in Asia – which has been fabricated to withstand compression force of 5,000 tons and shear displacement of 1,000mm. "Doshin is the only manufacturer in the world which has been able to produce HDRBs with an equivalent viscous damping of more than 22%," confirmed Or.

Cognisant that it has to innovate to stay ahead in an increasingly competitive industry, Doshin takes the initiative to hold specialised workshops, collaborating with consulting engineers and academicians, to increase public awareness of base isolation. Simultaneously, the firm trains designers in the proper use of advanced seismic techniques like base isolation and energy dissipation. This has enabled it to offer products and solutions based on state-of-the-art technology to its clients and the market in general. Its customer base – for which it can provide customised products and solutions if necessary – includes firms across the industrial board.

Today, Doshin's solutions are increasingly used in civil and industrial engineering, from transportation infrastructure such as bridges and viaducts, to strategic structures and facilities like hospitals and emergency centres, and ordinary buildings in seismic activity-prone or high-wind areas. Doshin's exports contribute significantly to Malaysia's exports of structural bearings, which reached RM14.1 million in 2016, an increase of 36% year-on-year from RM10.4 million in 2015. Malaysian-made structural bearings are exported to countries such as Australia, New Zealand, the US and China, and regions such as North Africa, Europe and South America. MREPC has identified HDRBs as an emerging export area with excellent growth potential in the future, that will at the same time enable Malaysia to climb up the rubber innovation value chain.

MALCORP: COLLABORATING FOR GREATER SUCCESS



THE Malaysian Consortium of Rubber Products, MALCORP Sdn Bhd, has been striving to grow international markets for the country's manufacturers of dry rubber products for nearly two decades.

Launched on 11 May 2001 by the late Tun Dr. Lim Keng Yaik, then-Minister of Primary Industries, MALCORP today represents the interests of its 14 shareholders, 13 of whom are manufacturers of dry rubber products in Malaysia. The major shareholder is the Malaysian Rubber Export and Promotion Council (MREPC), the prime mover in the formation of the Consortium in 2001.

GROWING GLOBAL MARKETS

MALCORP's key purpose is to enhance and provide additional marketing channels to members of the Consortium, hence positioning Malaysia as one of the global leaders in dry rubber products. "Most

manufacturers need to export products but they may not have the channels, resources, capabilities or outreach to do this," explained MALCORP CEO, Nor Iskandar Nordin. "MALCORP helps them by finding channels and customers." In the course of providing member support and market development, MALCORP is also developing its own brand.

Today, MALCORP functions as a one-stop centre for the sourcing of all dry rubber products, which helps to mitigate manufacturers' constraints. Most foreign buyers are looking to purchase in large quantities and individually, local manufacturers may not have the capacity to produce the required volumes. The Consortium works to ensure that collectively, demand for any quantity of any item can be met. At any one time, the Consortium has access to a mould bank of over 15,000 rubber automotive items suitable for major

car brands worldwide through the inventories of its members. "What we were aiming for, even from the formation stage, was a Consortium that could offer a bigger volume and wider range of products than any single manufacturer could produce. There is no other manufacturer in the world that has a mould bank of such numbers."

Today, MALCORP exports to more than 40 countries globally, including North and South America, Russia and Eastern Europe, the Middle East, and Australia and New Zealand. Its exports include rubber components and parts for the automotive industry, industrial rubber hoses in an array of sizes, marine fenders used in ships and on the sides of jetties/piers to provide

buffering, bridge bearings, rubber gloves for household and industrial use, precured tread liners and ionic mats. Its product range caters for almost every industry worldwide, and is used in almost every continent.

A CHALLENGING JOURNEY

Success did not arrive overnight. MALCORP invested the first two years in building up the organisation and its brand, and did not record a profit. Its first order for car mats from New Zealand was fulfilled in 2003.

This was followed by an order for a container load of industrial hoses from Saudi Arabia, and subsequently other orders were logged from other markets as MALCORP expanded and penetrated into other regions. Today, MALCORP has representatives in the US, Argentina, UAE, Russia and Canada, covering the regions of North America, Central and South America, the Middle East and Russia. To maximise its marketing reach and to diversify its markets, MALCORP attends many international trade fairs and has even received visitors from as far away as Mexico who are familiar with the brand.

Nor Iskandar credits MALCORP's pioneers, the late Tan Sri Wong Kam Choon, former Chairman Dato' Teo Suat



Cheng, shareholders, board members and former CEO Serajuddin Ismail with the organisation's success. They worked tirelessly at networking, creating links and negotiating for market access for Malaysian rubber products abroad. Another asset is MALCORP's dedicated staff, many of whom have been part of the team since inception.

MALCORP'S 5-YEAR PLAN TO GROW EXPORTS

Going forward, MALCORP is refining its strategies to ensure the competitiveness and sustainability

SUCCESS did not arrive overnight. MALCORP invested the first two years in building up the organisation and the brand, and did not record a profit. Its first order for car mats from New Zealand was fulfilled in 2003.



Nor Iskandar Nordin, CEO of MALCORP with rubber automotive parts and industrial rubber gloves displayed at MALCORP's office in Kuala Lumpur.

FEATURES

of Malaysia's rubber products in an increasingly digital economy. Despite the ubiquity of e-purchasing, MALCORP remains relevant because it offers the convenience and cost-efficiency of sourcing quality products from a one-stop hub. "Although it is cheaper to buy direct from one source, buyers cannot afford to spend so much time sourcing individual products from hundreds of buyers, comparing prices, checking quality and ensuring logistics. Business moves so fast today that having to do these things, even with the help of technological advancements like the Internet, is quite likely to blunt a firm's competitive edge and erode its cost-effectiveness."

To strengthen its market presence, MALCORP is investing more substantially in innovation and R&D to diversify Malaysia's dry rubber products into new and lucrative markets, namely the aviation and aerospace industries. "There is a need to move concertedly into commercialisation of our R&D, and patent some of the more innovative products that have resulted from local efforts," Nor Iskandar said. "We do have the capability to move into the hi-tech market and develop high-value products for the defence and oil & gas industries, for instance."

ELEVATING THE MALCORP BRAND

Today, MALCORP intends to build on its track record of growth to elevate its brand to the next level. To achieve this, its strategy is to gain maximum exposure as possible for Malaysian dry rubber products. Hence, MALCORP's active and innovative participation at trade shows around the world is necessary to achieve maximum brand recognition and help sustain the nation's competitive edge especially in high value-added rubber products. "Malaysia is now the fifth largest natural rubber producer in the world by volume, behind Thailand, Indonesia, Vietnam and China. But we are strong in product development and prototyping, and we can coordinate logistics for our clients as a bonus. The MALCORP brand itself is growing because our product range is expanding. Our shareholders, who are manufacturers themselves, not only produce for their own clients but partner with us to grow the MALCORP brand."

Indeed, strong shareholder involvement is one of MALCORP's fundamental strengths. While MALCORP does due diligence on markets, explores new opportunities for Malaysian dry rubber products

and provides requisite support for the country's rubber products industry, its shareholders and partners focus on ensuring innovation and product quality.

This division of labour directly builds brand reputation and recognition, synonymous with quality. "We want customers to look at our brand and see integrity. Our strategy is to help our members focus on doing what they do best by undertaking the components of the business for which they may lack expertise, like marketing and promotion, branding and packaging. Our brand is on par with renowned international brands in certain countries, such as Dunlop, Parker and Goodyear, especially in Central and South America, and the Gulf Region." Despite economic setbacks, there is still demand for dry rubber products, which can make up as much as 15%-20% of automotive vehicles. Going forward, he expects a rejuvenated industry as innovation drives enhanced sales and market demand. Indeed, prospects look promising for the continuing growth of the dry rubber products industry as a key segment of Malaysian rubber and overall exports.



MALCORP's brand of automotive parts being promoted at an international trade show.



The Malaysian delegation including the CEO of MREPC, President of the Malaysian Rubber Products Manufacturers Association and the Vice-President of the Malaysian Rubber Glove Manufacturers Association with representatives of the Netherlands Foreign Investment Agency and Port of Rotterdam Authority.

ROBOTICS AND ADVANCED AUTOMATION

THE WAY FORWARD FOR THE RUBBER PRODUCTS INDUSTRY

The way forward for the rubber products industry to compete more efficiently and effectively in an increasingly challenging environment is greater automation involving the likes of robotics, artificial intelligence, data analytics and the Internet of things. Recognising this, MREPC is steering the industry towards this direction. Earlier this year from 28 March to 4 April 2017, MREPC led a delegation of industry participants to Germany and the Netherlands to see at close hand the latest in robotics and advanced automation.

In Germany, a leader in advanced manufacturing solutions, the delegation visited FLG Automation in Karben which provides automatic assembly machines and assembly lines and customised solutions in handling and assembly technology; and HAHN Automation in Rheinbollen which specialises in full-service systems integrator for automotive, plastics, rubber and medical device industries. At HAHN Automation, the delegates were introduced to Sawyer, a robot with a powerful one-arm for precision tasks, suitable for the rubber products

industry. The delegates also met with VDMA – the Mechanical Engineering Industry Association in Frankfurt-Niederrad, and learned the reasons for Germany's success in innovation – the machinery industry only employs skilled labour; the majority of skilled workers are from the apprentice programme; and all companies allocate 8% of their revenue to R&D activities. VDMA also assured the delegation of its willingness to work closely with Malaysian manufacturers who are interested to explore German robotics and automation.

Next in the Netherlands, the delegation met with Vicoma Engineering, Machinefabriek Boessenkool BV and Dutch Dipping in Almelo. All three are engineering firms that provide solutions and support to the manufacturing process. The delegates were particularly interested in the capability of Dutch Dipping to develop and fabricate machines for latex, PVC, vinyl, nitrile, neoprene and silicone. Furthermore, Dutch Dipping has expertise in dipping techniques, online testing and roll-up for condom plants, including online testing for

medical glove plants.

Also in Almelo, the delegates visited Smart Robotics, popularly known as the employment agency of robots, and specialising in flexible automation for manufacturing companies. The robots can be configured for various tasks such as assembly line work, product sorting, machine loading and unloading, quality control, packaging and palletising. These smart robots utilise advanced sensor technology, namely 3D vision, and are powered by a smart software that allows them to work closely with humans. Notably, the robots are capable of automatically adjusting their motion to a changing environment or product variation. These robots are especially ideal for small and medium enterprises (SMEs) as the cost can be recouped over a short period; flexible deployment; ease in configuration; and reasonable rental fee for a robot in the range of 3,000 – 5,000 euros a month.

The visits to the smart manufacturing facilities in Germany and the Netherlands left the Malaysian delegation impressed and convinced that the future does indeed lie in robotics and advanced automation. Though investment in robotics and automation can be quite costly, the benefits of increased speed, reliability, consistency and capability to run 24/7, can help to stave off competition and result in higher earnings for manufacturers over the longer term. Furthermore, the use of robotics and automation can save on labour costs and reduce reliance on foreign workers.



EXPANDING MALAYSIA'S SHARE IN RUSSIAN RUBBER GLOVES MARKET

HOW CAN MALAYSIA BUILD UPON ITS LEAD IN MEDICAL GLOVES EXPORTS TO THE IMPORTANT EXPORT DESTINATION OF RUSSIA?

CONSUMPTION OF MEDICAL GLOVES
per capita in Russia remains relatively low at about 11 pairs, despite consumption increasing at a compound annual growth rate (CAGR) of 10.4% in the last five years, from 2011 to 2015.

MALAYSIA commands a significant market share for imported medical gloves in Russia, which imports almost all its medical gloves. Malaysia accounts for approximately 50-55% of Russia's imported medical gloves, making this country of 144 million a key export destination for Malaysian rubber gloves. Going forward, Malaysia's goal is to build on this lead and expand our share of the Russian market for rubber medical glove exports.

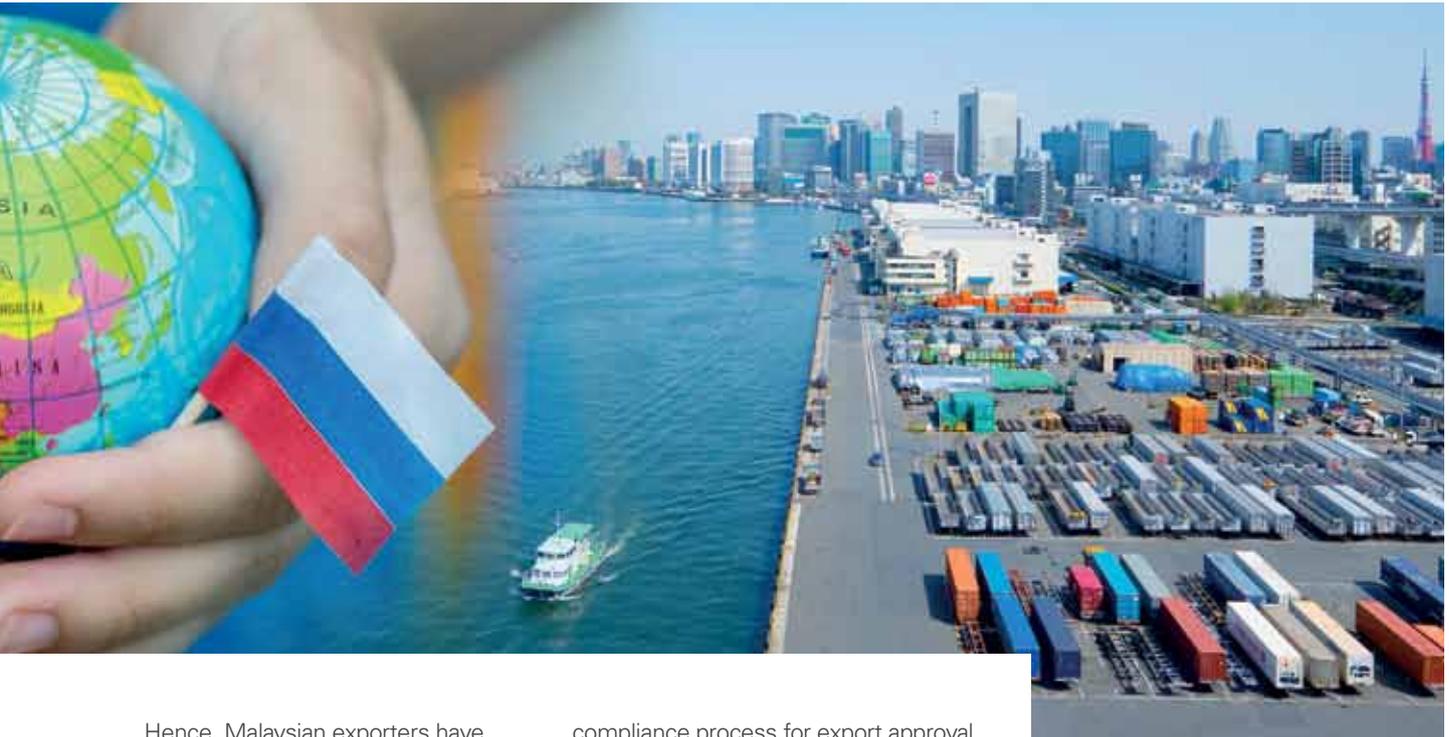
RUSSIAN MARKET: TREMENDOUS OPPORTUNITIES FOR MEDICAL GLOVE EXPORTS

The market size of medical gloves – comprising both surgical and examination

gloves - in Russia was estimated at 1.52 billion pairs in 2015, according to MREPC's latest research paper "Market for Medical Gloves in Russia"

Consumption of medical gloves per capita in Russia remains relatively low at about 11 pairs, despite consumption increasing at a compound annual growth rate (CAGR) of 10.4% in the last five years, from 2011 to 2015.

Consumption of surgical gloves which accounted for 22% of the total market size of medical gloves, recorded a remarkable CAGR of 30.7% during the same period. Meanwhile, examination gloves which accounted for 78% of the medical gloves market recorded a respectable CAGR of 6.9%.



Hence, Malaysian exporters have the opportunity to increase exports of medical gloves to Russia, particularly in the high-growth surgical gloves segment.

Currently, Malaysia is the largest exporter of surgical gloves and examination gloves to Russia. In the surgical gloves segment, Malaysia recorded a 55% share in value terms and a 50% share in volume terms in 2015. For non-surgical gloves, Malaysia captured 53.3% share of total Russian imports in value terms in 2015.

The Russian market prefers natural rubber (NR) latex gloves, which account for 65% of the total market size of medical gloves in volume terms. Synthetic rubber gloves account for 28% and plastic gloves for the remaining 7%. Powder-free gloves dominate the market and account for 75% of the total market size of medical gloves.

By segmentation, the public healthcare sector accounts for 36% of the total demand for surgical and examination gloves in Russia. Other sectors using these gloves are manufacturing (predominantly the food industry), universities, hospices, prisons and retail.

BARRIERS TO EXPORT

Despite high potential to grow exports, the complicated regulatory and

compliance process for export approval and preference for local companies in the public sector procurement are deterrents for many Malaysian exporters targeting the Russian medical gloves market, especially in the public healthcare sector.

Only local companies in Russia are allowed to participate in the public or state procurement of medical gloves. Public sector procurement is mainly conducted by tender, through the official Public E-Auction (PBE) platform, with preference given to local companies. The tender will be closed for foreign companies if at least two bids are received from local companies.

Hence, collaboration with local parties is the recommended strategy for penetrating the Russian market. A foreign company can participate in the public procurement tender by first obtaining the state's registration certificate. This can be done by establishing a distributorship contract with a local Russian company, setting up a representative office in Russia, setting up a branch office or by establishing a Russian subsidiary.

Exporters need perseverance, patience and holding power to succeed in this market. Obtaining a registration certificate takes about four to six months, but applicants should expect possible delays of up to 1-2 years due to factors such as regulatory changes,

SYNTHETIC rubber gloves account for 28% and plastic gloves for the remaining 7%. Powder-free gloves dominate the market and account for 75% of the total market size of medical gloves.

whereby the registration process is now regulated by different normative documents. This in turn, complicates the work of Roszdravnadzor (Federal Service for Surveillance in Healthcare) specialists. To expedite the registration certificate, it is advisable to use the services of local experts to handle documentation and registration.

Despite these challenges, the Russian market offers excellent prospects for growing the export market share of Malaysian rubber gloves.

For more details on the Russian medical gloves market, Malaysian exporters can refer to MREPC's latest research report on "Market for Medical Gloves in Russia" available at MREPC Resource Centre or online at www.mrepc-elibrary.com.



Group photo with officers from the Lima Chamber of Commerce officers in Lima, Peru.

SPECIALISED MISSION ON ENGINEERING RUBBER PRODUCTS TO CHILE AND PERU

5 – 11 October 2016, Santiago, Chile & Lima, Peru

MREPC is intensifying its global focus on marketing specialised rubber products solutions for use in earthquake-prone markets. Hence, from 5 – 11 October 2016, it organised a specialised mission on engineering rubber products to the two key South American cities of Santiago, Chile and Lima, Peru. Led by Ms. Low Yoke Kiew, Chief Executive Officer of MREPC, the mission comprised seminars on high-damping natural rubber bearings (HDNRB) to protect lives and property from earthquakes; business-matching sessions with potential buyers; and business meetings with relevant organisations.

In Santiago, the delegation paid a courtesy visit and hosted a lunch meeting attended by His Excellency Dato' Dr. Mohamad Rameez Yahaya, Malaysian Ambassador to Chile and Mr. Wan Ahmad Tarmizi Wan Idris, Trade Commissioner of MATRADE Santiago. At this meeting, His Excellency shared business insights into the Chilean market and participants were also

briefed on the different types of seismic bearings, the advantages of HDNRB, and various projects worldwide installed with rubber bearings. Subsequently, a meeting with the Chilean Association on Seismology and Earthquake Engineering (ACHISINA), which was held at MATRADE Santiago's office ACHISINA, was represented by its Executive Secretary, Ms. Francisca Maturana. From the meeting, ACHISINA welcomes feedback and inputs from Malaysian experts to the amendments of the building codes currently being drafted.

In Lima, the delegation visited the Lima Chamber of Commerce (CCL), where they were received by Mr. Eduardo Lechuga Ballon, Director of CCL and the President of Infrastructure, Buildings and Engineering of CCL together with Mr. Carlos Garcia, Foreign Trade Manager of CCL. Mr. Eduardo, who is also the President of IST of CAPECO (Peruvian Chamber of Construction), presented some insightful information on seismic isolation applications in Peru. At a separate visit to the University of

Engineering, Peru, the delegation was received by the Dean of the Faculty of Civil Engineering (FIC), Dr. Ing. Javier Arrieta, members of FIC and Japanese Peruvian Centre for Seismic Research and Disaster Mitigation (CISMID). The highlight of this visit was a short tour to the site of the University's 8-storey Library Information and Research building which features 20 core rubber seismic bearings procured from a US-based supplier. The delegation also paid a courtesy call on His Excellency Mr. Chuah Teong Ban, Malaysian Ambassador to Peru at the Embassy of Malaysia in San Isidro, Lima and proceeded to share relevant business insights on Peruvian markets during the meeting.

To educate the Chilean and Peruvian markets on the advantages of the Malaysian proprietary solutions for managing earthquake risks, MREPC organised two international engineering rubber products seminars entitled "High-Damping Natural Rubber Bearings – Protecting Lives and Property from Earthquakes." The seminar in Santiago and Peru was held on 6 October and 11 October respectively. The two seminars were attended by a total of 91 participants while 17 business-matching sessions were arranged by MREPC.



Meeting with Ms. Francisca Maturana of ACHISINA in Santiago, Chile.



Participants at MREPC seminar on HDNRB in Lima, Peru.

■ HOSPITAL EXPO JAKARTA 2016

19 - 22 October 2016, Jakarta Convention Centre, Jakarta, Indonesia

MREPC participated for the fourth time in the Hospital Expo Jakarta 2016, promoting made-in-Malaysia rubber medical devices. At this year's expo, MREPC's booth featured full wall posters along with displays of latex examination gloves, nitrile examination gloves, surgical gloves, chemotherapy gloves, foley catheters and rubber medical devices. At the MREPC counter, a latex surgical glove was also prominently showcased on a rotating display.

This year's expo also saw five other Malaysian rubber glove manufacturers participating under the MREPC pavilion. The Malaysian

manufacturers exhibited various medical gloves including high-risk gloves, dental gloves, gynaecology gloves and even cleanroom gloves.

MREPC received a total of 39 enquiries on rubber products mainly from distributors and importers as well as enquiries from representatives of medical institutions and clinics. A total of 14 business-matching sessions were successfully coordinated between three potential buyers, namely PT Prabu Mandiri Jaya, PT Inovasi Diagnostika and PT Mahkota Gandatama Perkasa with the participating Malaysian exhibitors.



MREPC officers with one of the Malaysian exhibitors at MREPC's pavilion in Hospital Expo Jakarta 2016.



■ 15th MEDICALL, 22 – 24 July 2016, Chennai Trade Centre, Chennai, India



Mr. Samir Shah, MREPC Representative in India attending to a business enquiry.

This three-day event focused on the latest, most appropriate and affordable technologies for the benefit of all hospitals and end-users in the medical industry. MREPC led a delegation of seven Malaysian rubber medical device manufacturers to Medical 2016 in Chennai, the capital of the Indian state of Tamil Nadu. This year's event, saw participation from 340 exhibitors representing eight countries.

MREPC showcased a wide range of rubber medical products ranging from rubber gloves (examination, surgical, radiation, chemotherapy, dental, gynaecology and high-risk gloves), condoms, breathing bags, dental dams, probe covers, catheters, and finger covers. MREPC received more than 100 enquiries during the three-day trade show, the majority of which were related to latex & nitrile examination gloves, surgical gloves, catheters, dental dams and condoms. There was also interest in other rubber products, such as industrial gloves. Enquiries about rubber gloves made up 76% of total visitor enquiries.

MREPC also successfully arranged 14 business-matching meetings for the participating manufacturers. The objective of the arranged meetings was to explore sourcing needs for Malaysian rubber medical products and to increase business opportunities in the Indian market, particularly in the state of Tamil Nadu.

■ MEDICA 2016, 14-17 November 2016, Dusseldorf, Germany

Held annually in November for more than 40 years, MEDICA (the World Forum for Medicine), is billed as the world's largest trade show, networking and educational event for the medical sector. The trade show is dedicated to medical, pharmaceutical and medical technological products, as well as healthcare service facilities.

Exhibitors at the trade show represented over 120 countries with pavilions from over 42 nations. Malaysia was represented by 41 exhibitors, including 23 rubber product manufacturers that are also members of MREPC. Of the 23 manufacturers, the majority were glove manufacturers while only five non-glove manufacturers exhibited other latex dipped products. The rubber medical products on exhibit included medical gloves (latex and nitrile examination and surgical including specialty gloves such as high-risk, chemotherapy, radiation, gynecological and clean room). Other products exhibited were condoms, catheters, cast shields, probe covers, finger cots, exercise bands, tubes, dams, tourniquets and some non-medical gloves (including household and industrial gloves). Throughout the four-day period of the trade show, MREPC's booth received visitors from 72 countries.



MREPC officer responding to visitors' enquiries at MREPC booth in MEDICA 2016.

MARKET PROMOTION

■ AUTOMECHANIKA FRANKFURT 2016

13-17 September 2016, Messe Frankfurt, Frankfurt, Germany

Automechanika Frankfurt is a trade fair for the automotive industry, featuring many exhibitors from around the world and highlighting the latest products and solutions relating to parts, systems, tuning, workshop equipment, bodywork & paintwork, car washing, IT management and the latest automobile services.

MREPC was among 4,820 exhibitors from more than 76 countries attending this year's trade show, which also attracted 28 Malaysian companies. Joining MREPC to exhibit and promote rubber products at the show were ten rubber product manufacturers: Fudex Rubber Products (M) Sdn Bhd, Good Rubber Works Industries Sdn

Bhd, Sri Kota Rubber Manufacturing Sdn Bhd, Pro-Tec Industries Sdn Bhd, Pro-Tec Marketing Sdn Bhd, Malaysian Consortium of Rubber Products (MALCORP), Sarpi Enterprise Sdn Bhd, HML Auto Industries Sdn Bhd, JA Poly Sdn Bhd and Multisafe Sdn Bhd.

Enquiries received by MREPC throughout the five-day exhibition - were mostly on rubber automotive components such as hoses, O-rings, pedal pads, engine mounting and rubber seals. Other enquiries on rubber products were on nitrile gloves, industrial gloves, rubber compounds, rubber adhesives and nitrile latex. The majority of MREPC's visitors were from Europe followed by Asia, Central America and South America. Altogether, 136,000 visitors from 170 countries attended the trade fair including leading players in the automotive industry



Participating Malaysian exhibitors with MREPC Marketing & Development Director, En. Muhammad Fazli at Automechanika Frankfurt, 2016.

■ AUTOMECHANIKA SHANGHAI, 30 November – 3 December 2016 National Exhibition & Convention Centre (Shanghai) PRC

Automechanika Shanghai is the world's second largest trade show for the automotive service industry, co-organised by Messe Frankfurt (Shanghai) Co Ltd and the China National Automotive Industry International Corporation (CNAICO). It is one of 16 Automechanika fairs held in Africa, Asia, Europe and North, Central and South America.

This year marks the 12th series of Automechanika Shanghai and MREPC's fourth year of participating. There were 5,756 exhibitors, an increase of 7% over 2015 from 42 countries. The show attracted approximately 120,000 visitors from



Participating exhibitor having a discussion with potential buyers at MREPC's pavilion in Automechanika Shanghai.

140 countries.

The MREPC-led pavilion included eight Malaysian manufacturers:

Cooltec Industries Sdn Bhd Seal, Fudex Rubber Products (M) Sdn Bhd, Good Rubber Works, H.M.L Auto Industries Sdn Bhd, JEB Auto Sdn Bhd, Multisafe Sdn Bhd, Sarpi Enterprise Sdn. Bhd and Schmaco Auto Parts Industries Sdn Bhd. A total of 22 on-site business matching sessions were successfully arranged between visitors to the MREPC booth and the participating Malaysian companies. Two pre-arranged business matchings were also arranged.



Representatives of MREPC Shanghai and MREPC Guangzhou offices with Malaysian rubber automotive parts exhibitors at Automechanika Shanghai.

■ INTERNATIONAL AIDS CONFERENCE 2016

19 – 22 July 2016, Durban International Convention Centre (ICC) Durban, South Africa

More than 15,000 participants from 153 countries gathered in Durban, South Africa for the 21st International AIDS Conference. The biennial International AIDS Conference is the premier platform for leaders in science, business and society to meet and advance efforts to treat and prevent HIV.

MREPC participated at the conference with a promotional booth showcasing a wide variety of condoms in different colours, textures, flavours/fragrances and packaging that attracted visitors. The creative way the condoms were displayed also garnered many compliments from the crowd, particularly the condom light bulbs and the condom display cabinet. MREPC also gave out free samples while briefing visitors on condoms and the rubber products industry in Malaysia.



Visitors showing their interests on the variety of Malaysian-made condoms at MREPC's booth at the AIDS Conference held in Durban, South Africa.

Throughout the four-day event, MREPC received trade enquiries mainly from South Africa. Meanwhile, the visitors were mostly from government agencies, NGOs and education agencies.

■ FIME 2016, 2 – 4 August 2016 Miami Beach, Florida, USA

As one of the leading international tradeshows dedicated to the medical industry, FIME is a strategic platform for Malaysian manufacturers to showcase and promote their products, in particular quality rubber medical devices and medical gloves, in the USA. FIME has successfully revolutionised the buying process by securing suppliers across the entire spectrum of the industry and engaging healthcare professionals, medical device manufacturers and distributors globally, particularly in the Caribbean and the Latin American markets.

MREPC was joined by six other manufacturers at this year's fair. They were Alliance Rubber Sdn Bhd, Koon Seng Sdn Bhd, Kossan Latex Industries, Riverstone Resources, Sanctuary Health Sdn Bhd and Wearsafe (M) Sdn Bhd. The three-day affair saw MREPC promoting Malaysia as the world's largest exporter of both NR latex and nitrile gloves while marketing the competitive advantages of Malaysian-made medical gloves for effective infection control with minimum latex protein allergy risks to distributors, suppliers and traders from the US and Latin American countries.



Dr. Esah Yip, Director of MREPC USA attending to a trade visitor at MREPC's booth.

■ SEMICON WEST 2016

12 – 14 July 2016, Moscone Centre, San Francisco, California

MREPC participated at SEMICON West held in San Francisco. SEMICON West is the world's marketplace for innovation in microelectronics. Other Malaysian exhibitors present at the trade show were two Malaysian rubber glove manufacturers, Multisafe Sdn Bhd and Riverstone Resources Sdn Bhd. At this show, MREPC focused its promotion on clean room gloves and finger cots, items which are widely used in the electronics industry.



Visitors at MREPC's booth during the Semicon West exhibition.

INTERNATIONAL MODERN HOSPITAL SHOW (IMHS)

13-15 July 2016
Tokyo Big Sight, Japan

MREPC made its debut participation at the IMHS 2016 showcasing a wide array of Malaysian-made rubber medical devices. IMHS is an annual event of Japan's healthcare industry, which enables doctors, nurses, medical administrators and medical equipment dealers to obtain the latest information pertaining to healthcare development and technologies.

The Malaysian Trade Commissioner of MATRADE Tokyo to Japan, Mr. Shah Nizam Ahmad, together with Assistant Director, Mr. Naohiko Kitaura, visited MREPC's booth on the second day of the exhibition. MATRADE Tokyo had been cooperative in ensuring the successful participation of MREPC. MATRADE had assisted in disseminating information pertaining to MREPC's participation at IMHS 2016, and sending invitations to potential buyers.

During the three-day event, medical gloves received the most enquiries from visitors to MREPC's booth, followed by food grade gloves. MREPC considers its maiden participation at IMHS successful as it was an excellent platform to gain valuable insights into the Japanese healthcare market.



YB Datuk Datu Nasrun Datu Mansur - Deputy Minister of Plantation Industries and Commodities with the CEO of MREPC as well as captains of the glove industry at the MREPC booth.

8th International Rubber Glove Conference & Exhibition (IRGCE) 2016

6 – 8 September 2016, Kuala Lumpur Convention Centre

This biennial event organised by the Malaysian Rubber Glove Manufacturers Association (MARGMA) and co-hosted by the Malaysian Rubber Export Promotion Council (MREPC), was officiated by the Deputy Minister of Plantation Industries and Commodities, Datuk Datu Nasrun Datu Mansur. With the theme “Beyond Just Infection and Contamination Control”, this year’s exhibition was held to promote Malaysian-origin rubber gloves and other rubber medical devices as well as to highlight MREPC’s

role as an export promotion agency promoting Malaysian rubber and rubber products.

During the two days, MREPC received enquiries from China, India, the Philippines, the Middle East and Europe as well as from local visitors. At this year’s exhibition, MREPC organised an Inward Buying Mission (IBM) on rubber medical gloves from India and South Korea. A total of six potential buyers from India and one from South Korea participated in the IBM while 58 business-matching sessions were successfully



MREPC officers attending to enquiries from foreign buyers.

conducted.

MREPC also held a series of career talks on job opportunities in the rubber products industry for university students. The main objective was to provide exposure to university and college students on Malaysia’s rubber products industry and to encourage them to join the industry to enrich the talent pool. These talks enabled students to meet potential employers while exploring the latest products and technology available in the rubber gloves industry. In total, 95 students from 14 universities participated in this excellent learning experience.



Students attending career talks organised by MREPC in conjunction with the 8th IRGCE 2016.



Mr. Kannan Sivasubramanian of Aranca India presenting his paper on rubber medical devices industry in India to Malaysian exporters.

Specialised Market Briefing on Medical Devices Regulations and Registration in China, India and Russia | 19 October 2016

China, India and Russia are key markets with high potential for Malaysian rubber product exporters, especially those specialising in healthcare. MREPC invited three prominent industry speakers to speak to Malaysian exporters on the current status and updates on medical devices regulations in China, India and Russia. The briefing addressed exporters' issues and challenges in supplying and registering rubber medical devices in these markets, and guided them on how to enter the market and overcome possible entry barriers related to regulations and product registration. The three speakers were Prof. Jack Wong, Head of Regulatory Affairs, Asia Pacific, Baxter Healthcare; Mr. Kannan Sivasubramanian, Executive Vice-President of Aranca (India) and Ms. Tatiana Nosova, Department Manager of Foreign Affairs of Beawire.

Prof. Wong introduced the participants to the Asia Regulatory Professional Association (ARPA), its organisational structure, membership,

Ms. Tatiana Nosova of Beawire, Russia



Prof. Jack Wong representing Asia Regulatory Professional Association



activities and programmes, including its various publications. He then provided a useful overview of the medical device regulations in China from 2000 till 2010, singling out the pre-market and post-market

requirements for R&D, manufacturing, registration, distribution and use of medical devices.

Focusing on "Opportunities for Medical Device and Market Entry Strategies in India", Mr. Sivasubramanian updated the audience on India's medical devices industry. He noted that the value of India's medical devices industry is projected to reach USD17 - USD20 billion in 2025, whereby imports will account for 70%. According to him, latex gloves will dominate the market while higher growth is expected for nitrile gloves. He further explained India's rubber contraceptives market and catheters market and the role of the Central Drugs Standard Control Organisation (CDSCO) which is the country's main regulatory body for medical devices.

Focusing on Russia, Ms. Nosova guided the audience on the approval process for medical devices, Russian regulations, laws and rules of medical products and classifications in her presentation, "Medical Device Registration and Regulations in Russia". She alerted participants to the expected changes to the Eurasian Conformity (EAC) mark from 2017 onwards. The EAC mark certifies that a product conforms to all technical regulations of the Eurasian Customs Union assessment procedures.

The briefing was attended by 42 participants from 22 companies comprising mostly exporters of rubber gloves, condoms and medical tubings. Ms. Low Yoke Kiew, CEO of MREPC, delivered the welcoming remarks.



Participants from Malaysian rubber medical devices companies listening attentively to the welcoming remarks by the CEO of MREPC

Specialised Market Briefing on Trade Developments and Market Opportunities for Rubber Products in the US, China and India | 14 July 2016



Dr. Esah Yip, Director of MREPC USA sharing market updates and trade opportunities with the audience.

Papers related to trade developments and market opportunities for the rubber products industry in the US, China and India were the focus of this one-day seminar. A total of 32 participants from 22 companies attended the seminar comprising mostly manufacturers and exporters of rubber gloves, moulded rubber parts, condoms, hoses, rubber compounding, rubber parts and

other items. The briefing, which was delivered by the Director of Marketing & Development and representatives from each of the MREPC overseas offices, aimed to provide updates on the market outlook, growth, exports, imports and regulations in the US, China and India.

The speakers were En. Muhammad Fazli Abdul Jalil, Director of Marketing & Development, MREPC; Dr. Esah Yip, Director of USA Office; Mr. Samir Shah, India Office Representative; Ms. Lio Lan Sing, Shanghai Office Representative and Mr. Chang Kah Chun, Guangzhou Office Representative. The papers presented included "Market Outlook of Rubber Products," "Updates on the Market for Rubber Products in the US," "Updates on the Market for Rubber Products in India" and "Updates on the Market for Rubber Products in China".

Sustainable Waste Management for Latex Products Industry – Principles & Practices | 22 September 2016



Participants and Dr. Devaraj (in black coat) were all smiles at the end of the half-day seminar.

This seminar aimed to heighten the continuing sustainability of the latex products manufacturing industry and to share knowledge and best practices on principles, procedures and activities to implement a systematic waste management system. The briefing was attended by Malaysian rubber manufacturers and exporters producing latex products such as gloves, condoms and exercise bands.

Speaker Dr. Devaraj Veerasamy, a principal consultant at Suraj Mahir Consultancy, who provides consultation services to the rubber industry, presented three papers on the subject. They were "Latex Products Solid Waste Management," "Sustainable Waste Management for Latex Products Industry – Principles and Practices" and "Wastewater Treatment and Recycling".

Online Marketing Skills: Going Global | 17 November 2016

Digital and online marketing are gaining traction globally, and affecting market behaviour. To position the rubber products industry for digital, MREPC recently organised a one-day seminar on 'Online Marketing Skills: Going Global' which was attended by 21 participants from 17 companies and officers from MREPC. The seminar was conducted by Mr. Dechen Lau, a qualified e-commerce consultant from Australia, who also holds a marketing



Mr. Dechen Lau stressing on the importance of social networks through Facebook, LinkedIn and Twitter to expand a company's business.

management specialisation from the United States. Mr. Lau shared on how to harness digital marketing knowledge through developing effective strategies for online marketing and to leverage the fundamentals of Search Engine Optimisation (SEO). Participants' takeaways included learning the relevant skills needed to enhance online marketing and social media savviness to expand their business and markets.

Specialised Market Briefing on Incentives for Rubber Products Industry | 28 July 2016



To educate rubber product manufacturers on the current incentives made available to them by various Malaysian agencies, MREPC invited five speakers for a half-day briefing recently. Puan Zabidah Daud, Senior Deputy Director, Chemical and Advanced Material Division of Malaysian Investment Development

government agencies on various incentives currently available for rubber product manufacturers. They highlighted suitable tax and non-tax incentives to improve manufacturers' production capability, increase productivity, aid in new product development, R&D and manufacturing improvement.



Puan Zabidah started the briefing session with a presentation on Investment Policies & Incentives for Rubber Industry offered by MIDA.



Participants seeking more details of incentives offered by the agencies at the information counter set up during the briefing.

Authority (MIDA); En. Mohd Jerry Tan Mohd Safi of Malaysian Technology Development Corporation (MTDC); En. Ghazali Hamzah, Business Advisory & Support Division of SME Corporation Malaysia (SME Corp); En. Hafizuddin Ishak, Commercialization Specialist of PlaTCOM Ventures Sdn Bhd under Agensi Inovasi Malaysia (AIM) and En. Azra' I Shu'ib, General Manager, Incubation & Technopreneur Development Department of Technology Park Malaysia Corporation Sdn Bhd, spoke to representatives from 16 rubber product companies and 13 officers from other

The participants represented companies dealing in automotive parts, sporting goods, hoses, medical gloves, precured tread liners, latex mattresses and moulded rubber parts. During the briefing, MREPC also organised an information counter for each agency to field queries directly from rubber product companies, disseminate information and leaflets and address any concerns and issues raised by participants. Mr. Brandon Chan, Deputy CEO of MREPC, delivered the welcoming remarks.

Three speakers at the briefing, from left: En. Azra' I Shu'ib of Technology Park Malaysia, En. Hafizuddin of PlaTCOM Ventures and En. Ghazali Hamzah of SME Corp.



UPCOMING EVENTS

MARKET PROMOTION ACTIVITIES

Events	Date	Location
JULY		
Medicall	28 - 30 July 2017	Chennai, India
AUGUST		
Florida International Medical Expo (FIME)	08 - 10 Aug 2017	Orlando, Florida, USA
World Congress of Surgery	13 - 17 Aug 2017	Basel, Switzerland
MREPC Specialised Mission on Rubber Medical Gloves to Brazil	30 July – 6 Aug 2017	Sao Paulo, Brazil
MREPC Specialised Mission on Rubber Medical Gloves to China	28 Aug – 1 Sept 2017	Xiamen & Guangzhou, China
OCTOBER		
MREPC Specialised Mission on Rubber Medical Gloves to India	9 - 13 Oct 2017	Hyderabad & Ahmedabad, India
Medic West Africa	11 - 13 Oct 2017	Lagos, Nigeria
A+A	17 - 20 Oct 2017	Dusseldorf, Germany
Hose Manufacturers Conference	24 - 25 Oct 2017	Akron, Ohio, USA
Automotive Aftermarket Products Expo (AAPEX)	31 Oct - 02 Nov 2017	Las Vegas, USA
NOVEMBER		
MEDICA	13 - 16 Nov 2017	Dusseldorf, Germany
Automechanika Shanghai	29 Nov - 02 Dec 2017	Shanghai, China

Note: Event details are correct at the time of publication but may be subject to change.

SEMINARS, BRIEFINGS & WORKSHOPS

Month	Events	Date
July	Briefing on Trends, Opportunities and Challenges in Key Markets for Rubber Products: US, China and India	11 July 2017
August	Briefing on Regional Comprehensive Economic Partnership (RCEP)	15 Aug 2017
	Seminar on Understanding Risk Management and Assessment in Manufacturing Industry	24 Aug 2017
October	Market Information Seminar on Cost Competitiveness Benchmarking for Manufacturing of Rubber Products	5 Oct 2017
November	Market Information Seminar on Rubber Gloves: 1. USA (Industrial) 2. South America (Household & Industrial), 3. South America (Medical Gloves) 4. Myanmar (Medical Gloves)	16 Nov 2017
December	Workshop on Blue Ocean Leadership	5 Dec 2017

Note: All events will be conducted at MREPC Seminar Hall. Event details are correct at the time of publication but may be subject to change.



ECOSS MAKES ITS DEBUT

On 16 December 2016, the Malaysian Rubber Board (MRB) launched its Green Rubber Sound Insulator, its first-ever product based on the 'green' concept. The sound insulator acts as a sound wave barrier, an effective strategy for noise control. Produced from Epoxidised Natural Rubber (ENR) or Ekoprena as the base material, the insulator consists of two layers of Ekoprena compound and Aluminium. Odourless and lightweight, it offers many advantages, having

a high sound absorption rate and the ability to withstand heat in excess of 100 degrees Celcius. It is also environmentally friendly and relatively cheap to produce. The product is suitable for use in the automotive industry, building and construction, electrical appliances and in various types of sound sealing system applications. ECOSS has been commercialised by MYKPK Rubber Integrated Sdn Bhd, a local rubber product manufacturing company.



DETERMINING RUBBER CONTENT

Jointly developed through the collaborative efforts of the MRB and FOSS, the RRIMETER is an instrument which can determine rubber and non-rubber content rapidly, reliably and accurately. This simple, five-step process can significantly improve the transparency and efficiency of rubber trading and analysis.

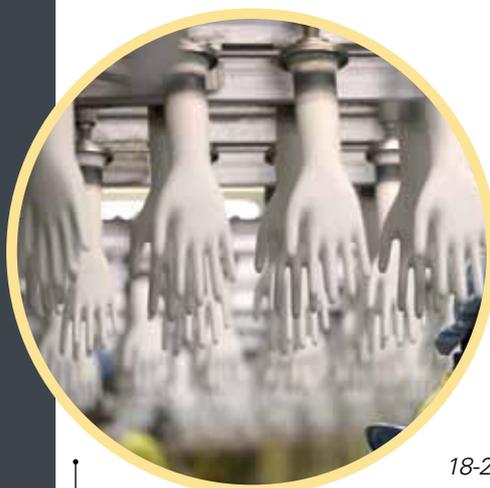
The RRIMETER is handy and easy to operate. It can be used at the same premise where rubber dealers purchase rubber from the smallholders. Using the RRIMETER can minimise the loss of dry rubber content compared with other current methods. More importantly, it will benefit the more than 400,000 rubber smallholders in the country as accurate determination of dry rubber content will give them better income.



NEW ANALYTICAL TEST METHOD

By measuring the viscosity of prevulcanised natural rubber latex at different temperatures with an Ubbelohde viscometer and the solvent swelling ratio of the latex films, researchers have been able to establish a correlation between the prevulcanised latex viscosity and the degree of vulcanisation of natural rubber. Unlike the conventional methods, this technique allows one to determine the crosslink density of natural rubber in the latex state without the need to isolate the rubber from the latex.

Source: Key Engineering Materials, 2017, volume: 728, pages: 313-317



AUTOMATED DEFECT DETECTION

An automated vision control online system has been developed to detect torn gloves and unstripped gloves in a fast production line. The detection system is based on the observations that a torn glove has an image with higher pixels while an unstripped glove has an image with lower pixels, compared to the normal glove. By using this method, the system is able to detect glove defects up to 81% accuracy.

Source: International Journal of Engineering & Technology IJET-IJENS, 16, 18-23 http://ijens.org/Vol_16_I_03/163203-5959-IJET-IJENS.pdf



DETECTING LATEX PROTEIN ALLERGENS WITH LATEX-T

MALAYSIA, as the biggest producer of natural rubber latex (NRL) gloves worldwide, takes the issue of latex protein allergy seriously as it is of direct concern to both consumers and latex goods manufacturers. Joint research efforts conducted at the Tun Abdul Razak Research Centre in the UK and the Rubber Research Institute of Malaysia in Malaysia have led to the development of Latex-T, a latex allergen-specific test capable of estimating the natural rubber protein allergens content semi-quantitatively of a tested product. Latex-T has a low detection limit, is simple to operate and is cost-effective. It is designed specifically for on-site testing, making the kit a valuable tool for monitoring allergen content during manufacturing in a completely lab-free environment.

The Latex-T diagnostic kit contains all the ingredients and tools to perform a test on one latex product sample and detects the presence of two of the major latex allergens recognised by the World Health Organization. Rapid and simple to use, one assay can be run in 15 minutes, and requires only minimal operator's input, besides basic knowledge and skills from users.

The latex product sample is extracted in the extraction bottle provided and shaken vigorously for two minutes. A drop of the liquid sample is then added to the

THE LATEX-T DIAGNOSTIC KIT contains all the ingredients and tools to perform a test on one latex product sample and detects the presence of two of the major latex allergens recognised by the World Health Organization.

sample well at the proximal end of a test strip. If allergen is present in the extract, two pink lines will appear after ten minutes corresponding to a Test-line (T) and Control-line (C); if no allergen is detected, only one C-line will appear as a control line indicating the validity of the test.

The Latex-T kit is currently at the prototype stage and not yet commercially available. However as a pre-commercialisation test, the kit performance has been evaluated in a factory trial within the glove manufacturing industry in Malaysia. Further improvement of the latex-T kit is ongoing to ensure that the final version of the kit will fully meet the needs of the latex products manufacturing industry for easy-use, rapid latex allergen testing that can be performed on-site during production. A simpler version of the kit which would provide a 'pass or fail' answer rather than a quantitative assay will be the main focus of future research.

• Extract from article contributed by Dr. Alessandra Di Cola (Tun Abdul Razak Research Centre) and Dr. Roslinda Sajari (Malaysian Rubber Board).





▶ RUBBERISE FOR LONGER LIFE

There are plans afoot to increase the use of rubber on Malaysian roads. Rubber has already been incorporated in the construction of some roads and has been seen to increase road lifespan, save costs and reduce maintenance, among other advantages.

For example, while conventional bitumen roads are prone to cracks and rutting, rubberised bitumen (made from ground scrap tyres incorporated into the bituminous mixture) is more durable and can even increase skid resistance, thereby making roads safer.

In the past two years, the Public Works Department (PWD) and the Malaysian Rubber Board (MRB) have undertaken research in the use of cup lumps in asphalt, to increase the use of rubber in road construction. Cup lumps – or naturally coagulated latex – are obtained directly from rubber trees without having to undergo any

manufacturing process. MRB estimates that 4.2 tonnes of cup lumps are needed for each kilometre of road.

Currently, Malaysia's road network encompasses about 19,714 km of Federal roads including tolled highways, and 184,073 km of state roads but the outlook is especially positive for large-scale infrastructure projects, including the Pan-Borneo Highway. The move to rubberise Malaysian roads is part of the government's efforts to increase domestic use of the commodity, thereby stabilising rubber prices and supporting rubber smallholders. About 10% of the 710,000 tonnes the country produces annually, is expected to be used in road construction, from 2018; usage will be increased should the current projects prove successful.

Besides durability and reduction in maintenance costs, rubberised roads have the ability to reduce tyre noise.

+ US FDA BANS POWDERED MEDICAL GLOVES

On 19 December 2016, the US Food and Drug Administration (FDA) published its final rule to ban powdered surgical gloves, powdered patient examination gloves and absorbable powder used for lubricating surgical gloves. This rule took effect on 18 January 2017 and applies to devices that are already in commercial distribution and sold to the ultimate end-user, as well as to devices that would be sold or distributed in the future.

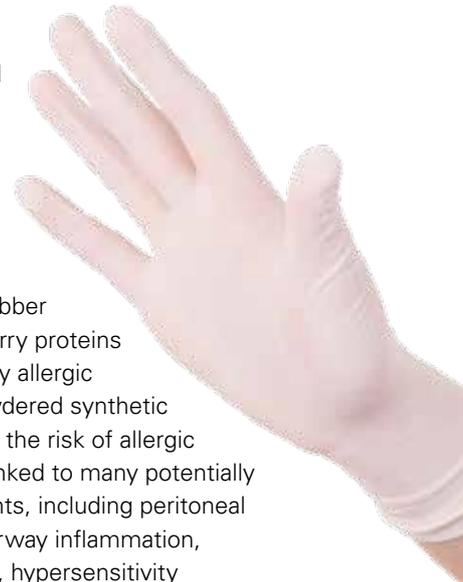
The FDA cited that powdered gloves carry a substantial risk of illness or injury to healthcare providers, patients, and others who are exposed.

The powder is added to gloves to make them easier to put on and take off, but it can be dangerous for several reasons.

Aerosolised glove powder on natural rubber latex gloves could carry proteins that cause respiratory allergic reactions. While powdered synthetic gloves may not pose the risk of allergic reactions, they are linked to many potentially serious adverse events, including peritoneal adhesions, severe airway inflammation, wound inflammation, hypersensitivity reactions and post-surgical adhesions.

The FDA ban on powdered gloves is expected to give minimal impact to Malaysia as it exports only 2 - 3% of powdered gloves produced to the US. Thus Malaysian glove exporters should have no problem to supply their US customers with powder-free gloves.

Currently, Malaysia controls 63% of the world market share for rubber gloves in volume terms. Of these exports, 77% comprise powder-free gloves while the remaining 23% are powdered gloves. Other countries are unlikely to similarly ban powdered gloves, as most Asian, African and other North American countries are still using them. Nevertheless, if trends indicate that other countries will import more powder-free gloves, Malaysian glove manufacturers will convert their production lines to produce more powder-free gloves.





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