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# PROSPECTUS



DOLPHIN INTERNATIONAL BERHAD

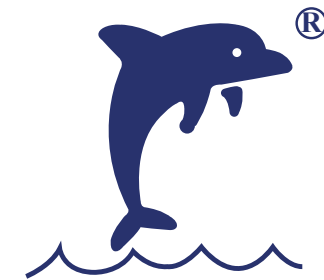
THIS PROSPECTUS IS DATED  
20 MAY 2015



INVESTORS ARE ADVISED TO READ AND UNDERSTAND THE CONTENTS OF THE PROSPECTUS. IF IN DOUBT, PLEASE CONSULT A PROFESSIONAL ADVISER.

THERE ARE CERTAIN RISK FACTORS WHICH PROSPECTIVE INVESTORS SHOULD CONSIDER. PLEASE TURN TO SECTION 4 OF THIS PROSPECTUS FOR "RISK FACTORS".

THIS PROSPECTUS IS DATED  
20 MAY 2015



## DOLPHIN INTERNATIONAL BERHAD

(Company No: 1001521-X)  
(Incorporated in Malaysia under the Companies Act, 1965)

PUBLIC ISSUE OF 46,000,000 NEW ORDINARY SHARES OF RM0.20 EACH IN DOLPHIN INTERNATIONAL BERHAD AT AN ISSUE PRICE OF RM0.68 PER ORDINARY SHARE PAYABLE IN FULL UPON APPLICATION COMPRISING:

- 15,000,000 NEW ORDINARY SHARES OF RM0.20 EACH AVAILABLE FOR APPLICATION BY THE MALAYSIAN PUBLIC;
- 8,250,000 NEW ORDINARY SHARES OF RM0.20 EACH AVAILABLE FOR APPLICATION BY THE ELIGIBLE DIRECTORS AND EMPLOYEES OF DOLPHIN INTERNATIONAL BERHAD AND ITS SUBSIDIARIES ("GROUP") AND PERSONS WHO HAVE CONTRIBUTED TO THE SUCCESS OF OUR GROUP; AND
- 22,750,000 NEW ORDINARY SHARES OF RM0.20 EACH BY WAY OF PRIVATE PLACEMENT OF WHICH 2,500,000 NEW ORDINARY SHARES OF RM0.20 EACH ARE OFFERED TO SELECTED INVESTORS AND 20,250,000 NEW ORDINARY SHARES OF RM0.20 EACH ARE OFFERED TO BUMIPUTERA INVESTORS APPROVED BY THE MINISTRY OF INTERNATIONAL TRADE AND INDUSTRY;

IN CONJUNCTION WITH THE LISTING OF DOLPHIN INTERNATIONAL BERHAD ON THE MAIN MARKET OF BURSA MALAYSIA SECURITIES BERHAD

*Principal Adviser, Underwriter and Placement Agent*



Hong Leong Investment Bank Berhad (10209-W)

(A Participating Organisation of Bursa Malaysia Securities Berhad)  
(A Trading Participant of Bursa Malaysia Derivatives Berhad)

### RESPONSIBILITY STATEMENTS

Our Directors and Promoters (as defined in this Prospectus) have seen and approved this Prospectus and they collectively and individually accept full responsibility for the accuracy of the information contained in this Prospectus and confirm, having made all reasonable enquiries, that to the best of their knowledge and belief, there are no false or misleading statements or other facts, the omission of which would make any statement in this Prospectus false and/or misleading.

Hong Leong Investment Bank Berhad, being our Principal Adviser, Underwriter and Placement Agent, acknowledges that, based on all available information, and to the best of its knowledge and belief, this Prospectus constitutes a full and true disclosure of all material facts concerning the initial public offering ("IPO").

### STATEMENTS OF DISCLAIMER

The Securities Commission Malaysia ("SC") has approved this issue, offer or invitation for the IPO and a copy of this Prospectus has been registered with the SC. The approval and registration of this Prospectus should not be taken to indicate that the SC recommends the IPO or assumes responsibility for the correctness of any statement made or opinion or report expressed in this Prospectus. The SC has not, in any way, considered the merits of the securities being offered for investment.

The SC is not liable for any non-disclosure in this Prospectus by us and takes no responsibility for the contents of this Prospectus, makes no representation as to its accuracy or completeness, and expressly disclaims any liability for any loss you may suffer arising from or in reliance upon the whole or any part of the contents of this Prospectus.

**YOU SHOULD RELY ON YOUR OWN EVALUATION TO ASSESS THE MERITS AND RISKS OF THE INVESTMENT IN OUR COMPANY. IN CONSIDERING THE INVESTMENT, IF YOU ARE IN DOUBT AS TO THE COURSE OF ACTION TO BE TAKEN, YOU SHOULD CONSULT YOUR STOCKBROKER, BANK MANAGER, SOLICITOR, ACCOUNTANT OR OTHER PROFESSIONAL ADVISERS IMMEDIATELY.**

Approval has been obtained from Bursa Malaysia Securities Berhad ("**Bursa Securities**") for the listing of and quotation for the securities being offered. Admission to the Official List of Bursa Securities is not to be taken as an indication of the merits of the IPO, our Company or our shares.

A copy of this Prospectus, together with the application form, has also been lodged with the Registrar of Companies who takes no responsibility for its contents.

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## OTHER STATEMENTS

The acceptance of applications for the securities being issued is conditional upon permission being granted by Bursa Securities for the listing of and quotation for the securities being issued on the Official List of Bursa Securities. If the permission is not applied for in the form for the time being required by Bursa Securities before the third day on which Bursa Securities is open after the date of issue of this Prospectus or not granted within 6 weeks from the date of issue of this Prospectus (or such longer period as may be specified by the SC), provided that our Company is notified by Bursa Securities within the aforesaid timeframe, all monies paid in respect of any application accepted will be returned in full, without interest to the applicants, at the applicants' own risk. If any such monies are not returned within 14 days after our Company become liable to repay it, the provision of sub-section 243(2) of the Capital Markets and Services Act, 2007 ("CMSA") shall apply.

You are advised to note that recourse for false or misleading statements or acts made in connection with the Prospectus is directly available through Sections 248, 249 and 357 of the CMSA.

Securities listed on Bursa Securities are offered to the public premised on full and accurate disclosure of all material information concerning the issue for which any of the persons set out in Section 236 of the CMSA, e.g. directors and advisers, are responsible.

This Prospectus is prepared and published solely under the Laws of Malaysia. Our Shares are offered in Malaysia solely based on the contents of this Prospectus. Our Company, Promoters and Principal Adviser, Underwriter and Placement Agent have not authorised anyone to provide you with information which is not contained in this Prospectus.

This Prospectus has not been and will not be made to comply with the laws of any jurisdiction other than Malaysia, and has not been and will not be lodged, registered or approved pursuant to or under any applicable securities or equivalent legislation or by any regulatory authority of any jurisdiction other than Malaysia.

This Prospectus is not intended to be issued, circulated or distributed, and the IPO will not be made in any country or jurisdiction other than Malaysia or to persons who are subject to the laws of any country or jurisdiction other than the Laws of Malaysia. The IPO to which this Prospectus relates is only available to persons receiving this Prospectus electronically or otherwise within Malaysia.

We will not, prior to acting on any acceptance in respect of our IPO, make or be bound to make any enquiry as to whether you have a registered address in Malaysia and will not accept or be deemed to accept any liability in relation thereto whether or not any enquiry or investigation is made in connection to it. It is your sole responsibility to consult your legal and/or other professional advisers as to whether the IPO would result in the contravention of any laws or jurisdictions of Malaysia.

Further, it shall also be your sole responsibility to ensure that your application for the IPO would be in compliance with the terms of the IPO and would not be in contravention of any laws of countries or jurisdictions other than Malaysia to which you may be subject to. We will further assume that you had accepted the IPO in Malaysia. However, we reserve the right, in our absolute discretion, to treat any acceptance as invalid if we believe that such acceptance may violate any law or applicable legal or regulatory requirements.

## ELECTRONIC PROSPECTUS

The contents of the Electronic Prospectus and the copy of this Prospectus registered with the SC are the same. This Prospectus can also be viewed or downloaded from Bursa Securities website at [www.bursamalaysia.com](http://www.bursamalaysia.com).

You may also obtain a copy of the electronic Prospectus from the website of Affin Bank Berhad at [www.affinOnline.com](http://www.affinOnline.com), Affin Hwang Investment Bank Berhad at [trade.affinhwang.com](http://trade.affinhwang.com), CIMB Bank Berhad at [www.cimbclicks.com.my](http://www.cimbclicks.com.my), CIMB Investment Bank Berhad at [www.eipocimb.com](http://www.eipocimb.com), Malayan Banking Berhad at [www.maybank2u.com.my](http://www.maybank2u.com.my), Public Bank Berhad at [www.pbebank.com](http://www.pbebank.com) and RHB Bank Berhad at [www.rhb.com.my](http://www.rhb.com.my).

You are advised that the Internet is not a fully secure medium. Your Internet application may be subject to risks in data transmission, computer security threats such as viruses, hackers and crackers, faults with computer software and other events beyond the control of the Internet Participating Financial Institution. These risks cannot be borne by the Internet Participating Financial Institution. If you doubt the validity or integrity of an Electronic Prospectus, you should immediately request from us, our Principal Adviser or the Issuing House, a paper/printed copy of the Prospectus. If there is any discrepancy between the contents of the Electronic Prospectus and the paper/printed copy of this Prospectus, the contents of the paper/printed copy of this Prospectus which are identical to the copy of this Prospectus registered with the SC shall prevail.

In relation to any reference in this Prospectus to third party internet sites (referred to as "**Third Party Internet Sites**"), whether by way of hyperlinks or by way of description of the Third Party Internet Sites, you acknowledge and agree that:

- (a) we do not endorse and are not affiliated in any way to the internet sites. Accordingly, we are not responsible for the availability of, or the content or any data, files or other material provided on the Third Party Internet Sites. You bear all risks associated with the access to or use of the Third Party Internet Sites;
- (b) we are not responsible for the quality of products or services in the Third Party Internet Sites, particularly in fulfilling any of the terms of any of your agreements with the Third Party Internet Sites. We are also not responsible for any loss or damage or cost that you may suffer or incur in connection with or as a result of dealing with the Third Party Internet Sites or the use of or reliance on any data, file or other material provided by such parties; and
- (c) any data, information, file or other material downloaded from the Third Party Internet Sites is done at your own discretion and risk. We are not responsible, liable or under obligation for any damage to your computer system or loss of data resulting from the downloading of any such data, information, files or other material.

Where an Electronic Prospectus is hosted on the website of the Internet Participating Financial Institution, you are advised that:

- (a) the Internet Participating Financial Institution is only liable in respect of the integrity of the contents of an Electronic Prospectus, to the extent of the content of the Electronic Prospectus on the web server of the Internet Participating Financial Institution which may be viewed via your web browser or other relevant software. The Internet Participating Financial Institution is not responsible for the integrity of the contents of an Electronic Prospectus which has been obtained from the web server of the Internet Participating Financial Institution and subsequently communicated or disseminated in any manner to you or other parties; and
- (b) while all reasonable measures have been taken to ensure the accuracy and reliability of the information provided in an Electronic Prospectus, the accuracy and reliability of an Electronic Prospectus cannot be guaranteed because the Internet is not a fully secure medium.

The Internet Participating Financial Institution is not liable (whether in tort or contract otherwise) for any loss, damage or costs, you or any other person may suffer or incur due to, as a consequence of or in connection with any inaccuracies, changes, alterations, deletions or omissions in respect of the information provided in an Electronic Prospectus which may arise in connection with or as a result of any fault with web browsers or other relevant software, any fault on your or any third party's personal computer, operating system or other software, viruses or other security threats, unauthorised access to information or systems in relation to the website of the Internet Participating Financial Institution, and/or problems occurring during data transmission which may result in inaccurate or incomplete copies of information being downloaded or displayed on your personal computer.

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**INDICATIVE TIMETABLE**

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The indicative timing of events leading up to the listing of and quotation for our entire enlarged issued and paid-up share capital on the Main Market of Bursa Securities is set out below:

<b>Event</b>	<b>Indicative date</b>
Opening date of Application for the IPO	20 May 2015
Closing date of Application for the IPO	28 May 2015
Balloting of Applications	1 June 2015
Allotment of shares to successful applicants	8 June 2015
Listing date	9 June 2015

Save for the opening date of the Application for the IPO, these dates are tentative and are subject to changes which may be necessary to facilitate implementation procedures.

Applications will be accepted from 10.00 a.m. on 20 May 2015 and will remain open until 5.00 p.m. on 28 May 2015 or such later date or dates our Board of Directors and Hong Leong Investment Bank Berhad at their absolute discretion may jointly decide.

Should the closing date of the applications be extended, the dates for the balloting, allotment and listing of our entire enlarged issued and paid-up share capital on the Main Market of Bursa Securities might be extended accordingly. We will notify all parties via an advertisement in a widely circulated English and Bahasa Malaysia newspaper in Malaysia in the event there is an extension of time on the closing date of the applications.

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## PRESENTATION OF FINANCIAL AND OTHER INFORMATION

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Words importing the singular shall, where applicable, include the plural and vice versa and words importing the masculine gender shall, where applicable, include the feminine and neuter genders and vice versa. Reference to persons shall include natural persons, firms, companies, bodies corporate and corporation, unless otherwise specified.

Any reference in this Prospectus to any provisions of the statutes, rules, regulations, enactments or rules of stock exchange shall (where the context admits), be construed as reference to provisions of such statutes, rules, regulations, enactments or rules of stock exchange (as the case may be) as modified by any written law or (if applicable) amendments or re-enactment to the statutes, rules, regulations, enactments or rules of stock exchange for the time being in force. Any reference to a time of a day in this Prospectus shall be reference to Malaysian time, unless otherwise stated.

Any references to “our Company” or “the Company” or “Dolphin” in this Prospectus are to Dolphin International Berhad, reference to “our Group” or “the Group” or “Dolphin Group” are to Dolphin International Berhad and its subsidiaries and reference to “we”, “us”, “our”, and “ourselves” are to our Company, and where the context requires, our Group. Unless the context otherwise requires, reference to “Management” are to our Directors and key management personnel as at the date of this Prospectus, and statements as to our beliefs, expectations, estimates and opinions are those of our Management.

This Prospectus includes statistical data provided by our Management and various third parties and cites third-party projections regarding growth and performance of the industries in which we operate. This data is taken or derived from information published by industry sources and from our internal data. In each such case, the source is stated in this Prospectus, provided that where no source is stated, it can be assumed that the information originated from us. We believe that the statistical data and projections cited in this Prospectus are useful in helping you to understand the major trends in the industries in which we operate. However, neither we nor our advisers have independently verified these data. Neither we nor our advisers make any representation as to the correctness, accuracy or completeness of such data and accordingly you should not place undue reliance on the statistical data cited in this Prospectus. Similarly, third-party projections cited in this Prospectus are subject to significant uncertainties that could cause actual data to differ materially from the projected figures. We give no assurance that the projected figures will be achieved, and you should not place undue reliance on the third-party projections cited in this Prospectus.

The information on our website, or any website directly or indirectly linked to such website does not form part of this Prospectus and you should not rely on it.

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## **FORWARD-LOOKING STATEMENTS**

This Prospectus contains forward-looking statements. All statements other than statements of historical facts included in this Prospectus, including, without limitation, those regarding our financial position, business strategies, plans and objectives of our Management for future operations, are forward-looking statements. Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such forward-looking statements are based on numerous assumptions regarding our present and future business strategies and the environment in which we will operate in the future. Such forward-looking statements reflect our Management's current view with respect to future events and are not a guarantee of future performance. Forward-looking statements can be identified by the use of forward-looking terminology such as the words "expect", "believe", "plan", "intend", "estimate", "anticipate", "aim", "forecast", "may", "will", "would", and "could", or similar expressions and include all statements that are not historical facts. Such forward-looking statements include, without limitation, statements relating to:

- (a) demand for our products and services;
- (b) our business strategies;
- (c) plans and objectives of our Management for future operations;
- (d) our financial position; and
- (e) our future earnings, cash flows and liquidity.

Our actual results may differ materially from information contained in such forward-looking statements as a result of a number of factors beyond our control, including, without limitation:

- (a) the economic, political and investment environment in Malaysia and globally; and
- (b) government policy, legislation and regulation.

Additional factors that could cause our actual results, performance or achievements to differ materially include, but are not limited to those discussed in Section 4 of this Prospectus on "Risk Factors" and Section 10.2 of this Prospectus on "Management's Discussion and Analysis of Financial Condition and Results of Operations". We cannot give any assurance that the forward-looking statements made in this Prospectus will be realised. Such forward-looking statements are made only as at the date of this Prospectus. Subject to the provisions of Section 238 of the CMSA, we expressly disclaim any obligation or undertaking to release publicly any update or revision to any forward-looking statement contained in this Prospectus to reflect any change in our expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

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**DEFINITIONS**

Except where the context otherwise requires, the following definitions (in alphabetical order) shall apply throughout this Prospectus:

“Acquisitions”	: The Acquisition of Dolphin Applications, Acquisition of Dolphin Engineering, Acquisition of Dolphin Systems and Acquisition of Dolphin Components, collectively
“Acquisition of Dolphin Applications”	: The acquisition of the entire issued and paid-up share capital of Dolphin Applications by our Company for a total purchase consideration of RM28,100,000 which was satisfied entirely via the issuance of 140,500,000 Shares, as further detailed in Section 6.3.1 of this Prospectus. The acquisition of Dolphin Applications was completed on 31 March 2015
“Acquisition of Dolphin Components”	: The acquisition of 75% of the issued and paid-up share capital of Dolphin Components by our Company for a total cash consideration of RM65,000, as further detailed in Section 6.3.1 of this Prospectus. The acquisition of Dolphin Components was completed on 31 March 2015
“Acquisition of Dolphin Engineering”	: The acquisition of the entire issued and paid-up share capital of Dolphin Engineering by our Company for a total purchase consideration of RM5,100,000 which was satisfied entirely via the issuance of 25,500,000 Shares, as further detailed in Section 6.3.1 of this Prospectus. The acquisition of Dolphin Engineering was completed on 31 March 2015
“Acquisition of Dolphin Systems”	: The acquisition of the entire issued and paid-up share capital of Dolphin Systems by our Company for a total cash consideration of RM65,000, as further detailed in Section 6.3.1 of this Prospectus. The acquisition of Dolphin Systems was completed on 31 March 2015
“Act”	: The Companies Act, 1965 as amended from time to time and any re-enactment thereof
“ADA”	: Authorised Depository Agent
“Application(s)”	: The application(s) for the IPO Shares by way of Application Form, Electronic Share Application or Internet Share Application
“Application Form(s)”	: The printed application form(s) for application for the IPO Shares
“ATM”	: Automated Teller Machine
“Authorised Financial Institution(s)”	: Authorised financial institution(s) participating in the Internet Share Application in respect of the payments for the IPO Shares
“Board”	: Board of Directors of Dolphin
“Bursa Depository”	: Bursa Malaysia Depository Sdn Bhd (165570-W)
“Bursa Securities”	: Bursa Malaysia Securities Berhad (635998-W)
“CCM”	: Companies Commission of Malaysia
“CDS”	: Central Depository System
“CDS Account”	: An account established by Bursa Depository for a depositor for the recording of deposit of securities and for dealing in such securities by the depositor
“CFO”	: Chief Financial Officer



**DEFINITIONS (Cont'd)**

"CMSA"	:	Capital Markets and Services Act, 2007, as amended from time to time and any re-enactment thereof
"DGIPR"	:	Directorate General of Intellectual Property Rights of Indonesia
"Director(s)"	:	Director(s) of our Company and shall have the meaning given in Section 4 of the Act
"DOE"	:	Department of Environment, Malaysia
"Dolphin" or "Company"	:	Dolphin International Berhad (1001521-X)
"Dolphin Applications"	:	Dolphin Applications Sdn Bhd (791544-V)
"Dolphin Components"	:	Dolphin Components Sdn Bhd (872317-V)
"Dolphin Engineering"	:	Dolphin Engineering (M) Sdn Bhd (250619-K)
"Dolphin Group" or "Group"	:	Dolphin, together with our subsidiaries, namely Dolphin Applications, Dolphin Engineering, Dolphin Systems, Dolphin Components, Dolphin Robotic and PT Dolphin, and our associate company PT Emas Hijau, collectively
"Dolphin Share(s)" or "Share(s)"	:	Ordinary share(s) of RM0.20 each in Dolphin
"Dolphin Robotic"	:	Dolphin Robotic Systems Sdn Bhd (1092109-T)
"Dolphin Systems"	:	Dolphin Systems Sdn Bhd (791546-A)
"EBITDA"	:	Earnings before interest, taxation, depreciation and amortisation
"Electronic Prospectus"	:	Copy of this Prospectus that is issued, circulated or disseminated via the Internet, and/or an electronic storage medium, including but not limited to CD-ROMs
"Electronic Share Application(s)"	:	The application(s) for the IPO Shares through a Participating Financial Institution's ATM
"Eligible Person(s)"	:	Eligible Directors and employees of our Group and persons who have contributed to the success of our Group
"EPS"	:	Earnings per share
"FYE"	:	Financial year(s) ended/ending 31 December
"HLIB" or "Principal Adviser" or "Underwriter" or "Placement Agent"	:	Hong Leong Investment Bank Berhad (10209-W)
"IDR" or "Rp"	:	Indonesian Rupiah
"IMR" or "Protégé"	:	Independent Market Researcher
"IMR Report"	:	Independent Market Research Report on The Palm Oil Industry and Palm Oil Milling Machineries Sector prepared by Protégé Associates Sdn Bhd
"Internet Participating Financial Institution(s)"	:	The participating financial institution(s) for the Internet Share Application(s) as listed in Section 14.6.2 of this Prospectus
"Internet Share Application(s)"	:	The application(s) for the IPO Shares through the Internet Participating Financial Institution(s)
"IPO"	:	Initial public offering of the IPO Shares
"IPO Price"	:	The issue price of RM0.68 for each IPO Share

**DEFINITIONS (Cont'd)**

"IPO Share(s)"	: The 46,000,000 new Shares to be issued pursuant to the Public Issue payable in full upon application and subject to the terms and conditions of this Prospectus
"ISO"	: International Organisation for Standardisation, a developer and publisher of international standards
"Issuing House" or "MIH"	: Malaysian Issuing House Sdn Bhd (258345-X)
"kg"	: Kilogramme(s)
"Listing"	: Admission to the Official List and the listing of and quotation for our entire issued and paid-up share capital comprising 222,000,010 Shares on the Main Market
"Listing Requirements"	: Main Market Listing Requirements of Bursa Securities, as amended from time to time
"Listing Scheme"	: The Acquisitions, Public Issue and Listing, collectively
"LPD"	: 23 April 2015, being the latest practicable date prior to printing of this Prospectus
"L"	: Litre(s)
"M&E"	: Mechanical and electrical
"Main Market"	: Main Market of Bursa Securities
"Malaysian Public"	: All persons or members of the public excluding our Directors, substantial shareholders and persons connected or associated to them (as defined in the Listing Requirements)
"Market Day"	: A day when Bursa Securities is open for trading
"MDeC"	: Multimedia Development Corporation Sdn Bhd (389346-D)
"MIDA"	: Malaysia Investment Development Authority
"MITI"	: Ministry of International Trade and Industry
"MPOB"	: Malaysian Palm Oil Board
"MPSJ"	: Majlis Perbandaran Subang Jaya
"MSC Malaysia Status"	: A recognition by the Government of Malaysia through MDEC, for information communication technology and information communication technology facilitated businesses that develop or use multimedia technologies to produce and enhance products and services
"MT/H"	: Metric ton per hour
"MyIPO"	: Intellectual Property Corporation of Malaysia
"NA"	: Net assets
"Official List"	: The official list of the Main Market
"Participating Financial Institution(s)"	: Participating financial institution(s) for the Electronic Share Application as listed in Section 14.5.2 of this Prospectus
"PAT"	: Profit after taxation
"PBT"	: Profit before taxation

**DEFINITIONS (Cont'd)**

"PCT"	: Patent Cooperation Treaty is an international patent law treaty that provides a unified procedure for filing patent applications to protect inventions in each of its contracting states. A patent application filed under the PCT is called an international application, or PCT application.
"PE Multiple"	: Price earnings multiple
"Period under Review"	: The financial years comprising FYE 2011, FYE 2012, FYE 2013 and FYE 2014
"POM(s)"	: Palm oil mill(s)
"Promoters"	: Low Teck Yin and Hoh Yeong Cherng, collectively
"Proprietary products"	: Products which are produced under the exclusive legal right of the maker and/or marketed under the maker's brand. The term "proprietary products" when used in this Prospectus refers to products which are developed, produced and marketed under the Dolphin brand
"Prospectus"	: This Prospectus dated 20 May 2015 issued by our Company
"PT Dolphin"	: PT Dolphin Indonesia (Company Registration Certificate No. 09.01.1.46.40713)
"PT Emas Hijau"	: PT Emas Hijau Sejahtera Kapuas <sup>(1)</sup>
"Public Issue"	: The public issue of 46,000,000 new Shares at the IPO Price
"QC"	: Quality control
"QMS"	: Quality management systems
"R&D"	: Research and development
"RM" and "sen"	: Ringgit Malaysia and sen, respectively
"SALCRA"	: Sarawak Land Consolidation and Rehabilitation Authority
"SC"	: Securities Commission Malaysia
"sq ft"	: Square feet
"sqm"	: Square metre(s)
"Underwriting Agreement"	: Conditional underwriting agreement dated 23 April 2015 between our Company and the Underwriter for the underwriting of 23,250,000 IPO Shares which are made available for application by the Malaysian Public and the Eligible Persons
"UPM"	: Universiti Putra Malaysia
"US"	: The United States of America
"USD"	: US Dollar

**Note:**

- (1) *PT Emas Hijau, which was established on 20 November 2014 and registered on 19 January 2015, has yet to obtain its company registration number as it is still a dormant company as at the LPD. The company registration number will only be obtained once PT Emas Hijau has commenced its business operations and procured the Certificate of Company Registration.*

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**GLOSSARY OF TECHNICAL TERMS**


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To facilitate better understanding of the business of our Group, the following glossary contains an explanation and description of certain terms used in this Prospectus in connection with our Group. The terms and their meanings may not correspond to standard industry meanings or usage of these terms.

"3D"	: Three-dimensional space is a geometric 3-parameters model of the physical universe (without considering time) in which all known matter exists
"Actuators"	: A type of motor responsible for moving or controlling a mechanism or system
"Algorithm"	: An algorithm is an effective method expressed as a finite list of well-defined instructions for calculating a function. Algorithms are used for calculation, data processing, and automated reasoning
"CAD"	: Computer-aided design
"Cantilever drawbridge"	: A bridge, which can be raised to prevent or permit access, and is anchored at only one end with a counterweight system. The cantilever drawbridge is used with a horizontal steriliser to bridge the steriliser pit and the steriliser rail track line
"CEMS"	: Continuous Emission Monitoring System
"Clarification"	: The clarification process is where palm oil extracted is put through a process to separate the palm oil from its impurities such as water, cell debris, fibre and other non-oily solids
"CPO"	: Crude palm oil
"Deburring"	: A burr is a raised edge or small pieces of material remaining attached to a workpiece after a modification process. It is usually an unwanted piece of material and is removed with a deburring tool in a process called 'deburring'. Burrs are most commonly created after machining operations, such as grinding, drilling, milling, engraving or turning
"Depericarper"	: A machine used to break up the residue of the pressed oil palm fruit discharged from the screw press and to separate the nuts from the fibres
"Digester"	: A vertical cylindrical vessel which internally has a central shaft with arms that rotate and mesh up the fruitlets. This action breaks up the oil cells and conditions the fibre for pressing
"Digestion"	: Process of releasing oil in the oil palm fruit through the rupture or breaking down of oil-bearing cells which involves mashing of oil palm fruits under steam-heated conditions
"Extraction plant"	: The section in a POM designated for the processing of oil palm fruits for palm oil extraction
"FFB"	: Fresh fruit bunches
"FFB Reception and Transfer"	: A process within the marshalling yard where FFB is received and transferred from the loading dock and fed via a series of conveyors and feeding door systems before being put through the sterilisation process
"HMI"	: Human-machine interface is the part of the machine that handles the human-machine interaction. Membrane switches, rubber keypads and touchscreens are examples of that part of the human-machine interface which we can see and touch
"Hopper"	: A container used for the reception and funnelling of SFB onto a conveyor for the transfer of SFB to the thresher

**GLOSSARY OF TECHNICAL TERMS (Cont'd)**

"Hydrolysis"	:	A chemical decomposition in which a compound is split into other compounds by reacting with water
"Marshalling yard"	:	The section in a POM designated for material handling
"Mesocarp"	:	The fibrous layer of the oil palm fruit from where palm oil is extracted
"OER"	:	Oil extraction rate
"PLC"	:	Programmable logic controller is a digital computer used for automation of electromechanical processes, such as control of machinery on factory assembly lines, amusement rides, or light fixtures. Unlike general-purpose computers, the PLC is designed for multiple inputs and output arrangements, extended temperature ranges, immunity to electrical noise, and resistance to vibration and impact
"Pneumatic"	:	An application of pressured gas to produce mechanical motion
"Pressing"	:	The pressing of digested oil palm fruits to physically extract palm oil from SFB
"psi"	:	Pounds per square inch
"Purification"	:	The purification of palm oil is a process of separating the extracted palm oil from its impurities such as water, cell debris, fibre and other non-oily solids
"QMS"	:	Quality management systems
"Robo-REST"	:	Robotic Rapid Equilibrated Sterilisation Technology, an automated sterilisation system which incorporates the processes described in UPM Intellectual Property
"SCADA"	:	Supervisory control and data acquisition, generally refers to industrial control systems (computer systems) that monitor and control industrial, infrastructure or facility-based processes
"Screw press"	:	A machine with twin screws that rotate in opposite directions. At the end of the screw press is a cone or a plate that exerts pressure on the mesh of fruitlets and nuts which is fed into the screw press from the digester from which palm oil is extracted from
"SFB"	:	Sterilised fruit bunches
"Sterilisation"	:	A process where FFB is subjected to steam-heat treatment to facilitate the stripping of fruits and to prepare the fruit mesocarp for subsequent processing
"Thresher"	:	A revolving drum designed to undertake the threshing of SFB
"Threshing"	:	A process to detach sterilised oil palm fruits from the stalk
"Thin-client"	:	A computer or a computer program that depends heavily on some other computers (its server) to fulfil its computational roles
"Tipper"	:	A machine used to rotate cages contained with SFB to feed the SFB into a Hopper

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**1. CORPORATE INFORMATION****BOARD OF DIRECTORS**

<b>Name</b>	<b>Designation</b>	<b>Address</b>	<b>Occupation</b>	<b>Nationality</b>
Datuk Zaiton Binti Mohd Hassan	Senior Independent Non-Executive Chairperson	1955, Jalan G1 Fasa 3A Taman Melawati 53100 Kuala Lumpur	Company Director	Malaysian
Low Teck Yin	Group Managing Director	No. 6, Jalan Hujan Emas 6 Taman Overseas Union 58200 Kuala Lumpur	Company Director	Malaysian
Hoh Yeong Cherng	Group Executive Director	No. 22, Jalan Merak 8 Bandar Puchong Jaya 47100 Puchong Selangor Darul Ehsan	Company Director	Malaysian
Dr Abdul Azis Bin Ariffin	Independent Non-Executive Director	No. 15, Jalan SS 1/1 Kampung Tunku 47300 Petaling Jaya Selangor Darul Ehsan	Company Director	Malaysian
Kamaruddin Bin Osman	Independent Non-Executive Director	27, Jalan SS 22/37 Damansara Jaya 47400 Petaling Jaya Selangor Darul Ehsan	Company Director	Malaysian
Lee Yow Fui	Independent Non-Executive Director	No. 28, Jalan Putra Permai 8G Taman Equine 43300 Seri Kembangan Selangor Darul Ehsan	Company Director	Malaysian

**AUDIT AND RISK COMMITTEE**

<b>Name</b>	<b>Designation</b>	<b>Directorship</b>
Lee Yow Fui	Chairman	Independent Non-Executive Director
Dr Abdul Azis Bin Ariffin	Member	Independent Non-Executive Director
Kamaruddin Bin Osman	Member	Independent Non-Executive Director

**REMUNERATION COMMITTEE**

<b>Name</b>	<b>Designation</b>	<b>Directorship</b>
Kamaruddin Bin Osman	Chairman	Independent Non-Executive Director
Low Teck Yin	Member	Group Managing Director
Dr Abdul Azis Bin Ariffin	Member	Independent Non-Executive Director

**NOMINATION COMMITTEE**

<b>Name</b>	<b>Designation</b>	<b>Directorship</b>
Datuk Zaiton Binti Mohd Hassan	Chairperson	Senior Independent Non-Executive Chairperson
Dr Abdul Azis Bin Ariffin	Member	Independent Non-Executive Director
Kamaruddin Bin Osman	Member	Independent Non-Executive Director

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**1. CORPORATE INFORMATION (Cont'd)**

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- COMPANY SECRETARY** : Wong Youn Kim (MAICSA 7018778)  
Level 2, Tower 1, Avenue 5  
Bangsar South City  
59200 Kuala Lumpur  
Tel no.: +603-2241 5800  
Fax no.: +603-2282 5022
- REGISTERED OFFICE** : Level 2, Tower 1, Avenue 5  
Bangsar South City  
59200 Kuala Lumpur  
Tel no.: +603-2241 5800  
Fax no.: +603-2282 5022
- HEAD OFFICE/PRINCIPAL PLACE OF BUSINESS** : No. 17 & 19, Jalan Puteri 5/20  
Bandar Puteri  
47100 Puchong  
Selangor Darul Ehsan  
Tel no.: +603-8062 2289  
Fax no.: +603-8060 8613  
Website: [www.dolphinbhd.com](http://www.dolphinbhd.com)  
Email: [dolphin@dolphineng.com](mailto:dolphin@dolphineng.com)
- REPORTING ACCOUNTANTS/ AUDITORS FOR DOLPHIN, DOLPHIN APPLICATIONS, DOLPHIN ENGINEERING, DOLPHIN SYSTEMS, DOLPHIN COMPONENTS AND DOLPHIN ROBOTIC** : Baker Tilly Monteiro Heng (AF 0117)  
Baker Tilly MH Tower  
Level 10, Tower 1, Avenue 5  
Bangsar South City  
59200 Kuala Lumpur  
Tel no.: +603-2297 1000  
Fax no.: +603-2282 9980
- AUDITORS FOR PT DOLPHIN** : Johan Malonda Mustika & Rekan (951/KM.1/2010)  
Jalan Pluit Raya  
200 Blok V No. 1-5  
Jakarta 14450  
Indonesia  
Tel no.: +62-21-661 7155  
Fax no.: +62-21-663 0455
- LEGAL ADVISER (to the Company)** : *As to Malaysian Law*  
  
Foong & Partners  
Advocates & Solicitors  
13-1, Menara 1MK  
Kompleks 1 Mont' Kiara  
No. 1, Jalan Kiara, Mont' Kiara  
50480 Kuala Lumpur  
Tel no.: +603-6419 0822  
Fax no.: +603-6419 0823

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**1. CORPORATE INFORMATION (Cont'd)**

---

- LEGAL ADVISER (to the Company)** : *As to Indonesian Law*  
*(Cont'd)*
- Melli Darsa & Co.  
Menara Standard Chartered, 19th Floor  
Jalan Prof. Dr. Satrio No.164  
Jakarta 12930  
Indonesia  
Tel no.: +62-21-2553 2019  
Fax no.: +62-21-2553 2020
- PRINCIPAL BANKERS** : Export-Import Bank of Malaysia Berhad  
Level 1, EXIM Bank  
Jalan Sultan Ismail  
50250 Kuala Lumpur  
Tel no.: +603-2601 2000  
Fax no.: +603-2601 2459
- United Overseas Bank (M) Berhad  
(Puchong Branch)  
No. 5 & 6, Jalan Kenari 5  
Bandar Puchong Jaya  
47100 Puchong  
Selangor Darul Ehsan.  
Tel no.: +603-8076 2115  
Fax no.: +603-8076 8181
- ISSUING HOUSE** : Malaysian Issuing House Sdn Bhd  
Level 6, Symphony House  
Pusat Dagangan Dana 1  
Jalan PJU 1A/46  
47301 Petaling Jaya  
Selangor Darul Ehsan  
Tel no.: +603-7841 8000  
Fax no.: +603-7841 8150
- SHARE REGISTRAR** : Symphony Share Registrars Sdn Bhd  
Level 6, Symphony House  
Pusat Dagangan Dana 1  
Jalan PJU 1A/46  
47301 Petaling Jaya  
Selangor Darul Ehsan  
Tel no.: +603-7841 8000  
Fax no.: +603-7841 8151/8152
- INDEPENDENT MARKET RESEARCHER** : Protégé Associates Sdn Bhd  
Suite C-06-06, Plaza Mont' Kiara  
2 Jalan Kiara  
Mont' Kiara  
50480 Kuala Lumpur  
Tel no.: +603-6201 9301  
Fax no.: +603-6201 7302

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**1. CORPORATE INFORMATION (Cont'd)**

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**PRINCIPAL ADVISER,  
UNDERWRITER AND PLACEMENT  
AGENT** : Hong Leong Investment Bank Berhad  
Level 23, Menara HLA  
No. 3, Jalan Kia Peng  
50450 Kuala Lumpur  
Tel no.: +603-2168 1168  
Fax no.: +603-2164 8880

**LISTING SOUGHT** : Main Market of Bursa Securities

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## 2. SUMMARY INFORMATION

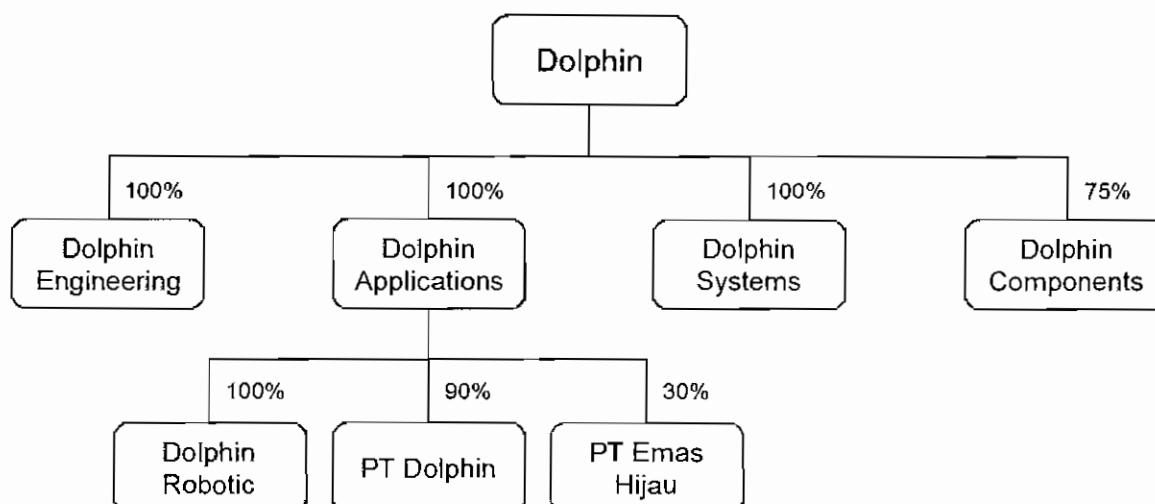
THIS IS A SUMMARY OF THE SALIENT INFORMATION IN THE PROSPECTUS. IT DOES NOT CONTAIN ALL THE INFORMATION THAT MAY BE IMPORTANT TO YOU. YOU SHOULD READ AND UNDERSTAND THE ENTIRE PROSPECTUS CAREFULLY BEFORE YOU DECIDE TO INVEST IN OUR COMPANY.

### 2.1 HISTORY AND BUSINESS

Our Company was incorporated in Malaysia under the Act on 14 May 2012 as a public limited company to facilitate the Listing of our Group on the Main Market.

Our present authorised share capital is RM100,000,000 comprising 500,000,000 Shares. Our present total issued and paid-up share capital is RM35,200,002 comprising 176,000,010 Shares. We are principally an investment holding company while our subsidiaries are principally involved in the design, development, fabrication and sale of our products for the palm oil milling machineries sector in the palm oil industry.

Our Group's corporate structure is depicted as below:



Further details on our subsidiaries are set out in Section 6.5 of this Prospectus.

Our Group, which was founded by our Promoters, namely Low Teck Yin and Hoh Yeong Cherng, on 14 October 1992 via the incorporation of Dolphin Engineering, started out by providing customised automation systems and services to assembly plants of various industries, including the automotive and consumer electronics industry. For the automotive industry, we provided the automated systems for the manufacturing of car safety belts and visors. As for the consumer electronics industry, our Group manufactured the automated systems for the deburring of components used in washing machine assembly lines. In 1995, our Promoters had envisioned the opportunities available in the palm oil milling machineries sector in the palm oil industry. As such, our Promoters decided to shift the focus of Dolphin Engineering to the palm oil milling machineries sector to carve a niche product offering for our Group due to the growing demand for process integration and automation solutions and services as POMs seek to enhance productivity, safety and efficiency.

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**2. SUMMARY INFORMATION (Cont'd)**

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Rising from humble beginnings, our Group has since managed to firmly establish itself in the palm oil milling machineries sector in the palm oil industry, providing our products which include milling systems and software as well as the supply of parts and maintenance services. With the award of the Main Contractor Certification by the Ministry of Finance and Construction Industry Development Board in 1997, we have also the ability to undertake the provision of turnkey solutions.

In 2002, we secured our first tender contract to supply and install our Cage Indexer System, which automates the FFB sorting process and transfers FFB to the sterilisation station, at the 45 MT/H POM owned by Ladang Tai Tak (Kota Tinggi) Sdn Bhd, an oil palm plantation company and palm oil miller based in Kota Tinggi, Johor. Since then and up to the LPD, we have provided our milling systems and solutions to 196 POMs, which are located mainly in Malaysia and Indonesia. Please refer to Section 6.7 of this Prospectus for further information on our principal markets during the Period under Review.

During the Period under Review, some of our customers who are familiar names in the palm oil industry include PT Prima Mitrajaya Mandiri (a subsidiary of MP Evans Group PLC), PT Dharma Satya Nusantara (which was listed on the Indonesia Stock Exchange (IDX) on 14 June 2013), Bau Palm Oil Mill Sdn Bhd (a company owned by SALCRA) and SALCRA itself. The revenue contribution from our abovementioned customers represented approximately 43.16%, 49.29%, 36.54% and 47.23% respectively of our Group's proforma consolidated total revenue for the FYE 2011, FYE 2012, FYE 2013 and FYE 2014.

In 2006, our Group was accredited with ISO 9001:2000 certification by TUV Nord Group, for our ability "to design, supply, implement and maintain SCADA software systems, hydraulic and automation systems specifically to the palm oil industry". This accreditation was further updated to ISO 9001:2008 in 2009.

Our Group has also embarked on and will continue to undertake R&D efforts for the enhancement of existing and development of new products for the palm oil milling machineries sector. Please refer to Section 6.15 of this Prospectus for further information on our Group's R&D.

Please refer to Section 6 of this Prospectus for further information on our business.

**2.2 COMPETITIVE ADVANTAGES**

We believe our key competitive advantages are:

- (i) Experienced key management team;
- (ii) Proven performance and track record;
- (iii) Provision of competitive and cost effective palm oil milling systems and software;
- (iv) Ability to provide total in-house solutions from process automation and controls to software development for the palm oil milling process;
- (v) Growing presence in key CPO producing markets; and
- (vi) Promoting sustainable growth via continuous R&D efforts.

Further details on our competitive advantages are set out in Section 6.16 of this Prospectus.

## 2. SUMMARY INFORMATION (Cont'd)

### 2.3 OWNERSHIP AND MANAGEMENT

Our Promoters, substantial shareholders, Directors and key management personnel are set out below:

#### 2.3.1 Promoters and substantial shareholders

Name	Designation
Low Teck Yin	Group Managing Director
Hoh Yeong Cherng	Group Executive Director

#### 2.3.2 Directors

Name	Designation
Datuk Zaiton Binti Mohd Hassan	Senior Independent Non-Executive Chairperson
Low Teck Yin	Group Managing Director
Hoh Yeong Cherng	Group Executive Director
Dr Abdul Azis Bin Ariffin	Independent Non-Executive Director
Kamaruddin Bin Osman	Independent Non-Executive Director
Lee Yow Fui	Independent Non-Executive Director

#### 2.3.3 Key management personnel

Name	Designation
Lee Kim Teck	Sales and Marketing Director
Foo Phui Foong	CFO
Gunandawadu Akalangka Susantha De Zoysa	Business Director (Indonesia)
Woo Wai Heng	R&D Director
Teoh Kah Lean	Head of Process Automation and Control Division
Afif Hadafi Bin Wahab	Head of Electro Pneumatic and Hydraulic Engineering Division
Lim Ah Ber	Head of Software Division
Tang Ing Hui	Group Finance Manager

Further information on our Promoters, substantial shareholders, Directors and key management personnel and their direct and indirect shareholdings in our Company are set out in Section 7 of this Prospectus.

## 2.4 PRINCIPAL STATISTICS OF THE IPO

### 2.4.1 IPO

Our IPO comprises the sale of the IPO Shares by our Company.

Please refer to Section 3 of this Prospectus for more particulars of our IPO.



**2. SUMMARY INFORMATION (Cont'd)****2.4.2 Our share capital**

	No. of Shares	RM
<b>Authorised share capital</b>	<b>500,000,000</b>	<b>100,000,000</b>
<b>Issued and fully paid-up share capital:</b>		
- As at the LPD	176,000,010	35,200,002
- To be issued and credited pursuant to the Public Issue	46,000,000	9,200,000
<b>Enlarged issued and fully paid-up share capital upon Listing</b>	<b>222,000,010</b>	<b>44,400,002</b>

**2.4.3 Price per IPO Share** **RM0.68**

**2.4.4 Market capitalisation upon Listing** **RM150,960,006.80**

**2.4.5 Proforma consolidated NA as at 31 December 2014**

Our Group's proforma NA (RM'000) 79,026  
*(After the Public Issue and utilisation of proceeds)*

Our Group's proforma NA per Share (RM) 0.36  
*(based on our enlarged share capital of 222,000,010 Shares)*

**2.4.6 Classes and ranking**

We have only 1 class of shares, namely ordinary shares of RM0.20 each. The IPO Shares will rank *pari passu* in all respects with our other existing shares including voting rights and will be entitled to all rights and dividends and distribution that may be declared subsequent to the date of allotment.

**2.5 UTILISATION OF PROCEEDS**

The Public Issue is expected to raise gross proceeds of RM31.28 million. The proceeds are expected to be utilised in the following manner:

Purpose	Time frame for utilisation from the date of Listing	Amount of proceeds	
		RM'000	%
Renovation and extension of factory (which includes the purchase of additional machineries)	24 months	11,000	35.16
Working capital	24 months	6,080	19.44
Set-up of a R&D facility	24 months	4,000	12.79
Repayment of bank borrowings	6 months	6,000	19.18
Estimated listing expenses	1 month	4,200	13.43
<b>Gross proceeds</b>		<b>31,280</b>	<b>100.00</b>

Further details on the utilisation of proceeds are set out in Section 3.7 of this Prospectus.

## 2. SUMMARY INFORMATION (Cont'd)

### 2.6 FINANCIAL INFORMATION

#### 2.6.1 Proforma consolidated statements of profit or loss and other comprehensive income

The following is a summary of the proforma consolidated statements of profit or loss and other comprehensive income of our Group for the Period under Review, prepared on the assumption that our Group structure has been in existence throughout the Period under Review.

The proforma consolidated statements of profit or loss and other comprehensive income are prepared for illustrative purposes only and should be read in conjunction with the accompanying notes and assumptions included in the Reporting Accountants' Report on the Compilation of Proforma Consolidated Financial Information Included in A Prospectus set out in Section 10.9 of this Prospectus.

	<-----Proforma Group----->			
	FYE 2011 RM'000	FYE 2012 RM'000	FYE 2013 RM'000	FYE 2014 RM'000
Revenue	45,990	64,175	88,249	104,585
Cost of sales	(32,739)	(48,362)	(64,478)	(77,831)
Gross profit	13,251	15,813	23,771	26,754
Other income	71	1,418	120	549
Sales and marketing expenses	(867)	(2,442)	(1,775)	(1,507)
Administrative expenses	(4,102)	(6,269)	(5,547)	(6,980)
Share of results of an associate	-	-	-	(6)
Operating profit	8,353	8,520	16,569	18,810
Finance costs	(570)	(838)	(1,897)	(2,159)
PBT	7,783	7,682	14,672	16,651
Income tax expense	(505)	(728)	(4,031)	(4,580)
PAT	7,278	6,954	10,641	12,071
<b>Other comprehensive income for the financial years</b>				
Foreign currency translation	-	48	545	(5)
Total comprehensive income for the financial years	7,278	7,002	11,186	12,066
<b>Net profit attributable to:</b>				
Owners	7,290	7,195	10,911	12,129
Non-controlling interests	(12)	(241)	(270)	(58)
	7,278	6,954	10,641	12,071
<b>Total comprehensive income attributable to:</b>				
Owners	7,290	7,243	11,456	12,124
Non-controlling interests	(12)	(241)	(270)	(58)
	7,278	7,002	11,186	12,066

**2. SUMMARY INFORMATION (Cont'd)**

	<-----Proforma Group----->			
	FYE 2011 RM'000	FYE 2012 RM'000	FYE 2013 RM'000	FYE 2014 RM'000
EBITDA <sup>(1)</sup>	8,848	9,138	17,412	19,799
No. of Shares assumed in issue <sup>(2)</sup> ('000)	176,000	176,000	176,000	176,000
Gross profit margin (%)	28.81	24.64	26.94	25.58
PBT margin (%)	16.92	11.97	16.63	15.92
PAT margin (%)	15.83	10.84	12.06	11.54
Gross EPS (sen) <sup>(3)</sup>	4.42	4.36	8.34	9.46
Net EPS (sen) <sup>(4)</sup>	4.14	4.09	6.20	6.89
Adjusted net EPS (sen) <sup>(5)</sup>	3.28	3.24	4.91	5.46

**Notes:**

- (1) EBITDA represent earnings before interest income, finance cost, taxation, depreciation and amortisation. The table below sets forth a reconciliation of our PAT to EBITDA:

	<-----Proforma Group----->			
	FYE 2011 RM'000	FYE 2012 RM'000	FYE 2013 RM'000	FYE 2014 RM'000
PAT	7,278	6,954	10,641	12,071
Income tax expense	505	728	4,031	4,580
PBT	7,783	7,682	14,672	16,651
Interest income	(49)	(53)	(55)	(54)
Depreciation	541	668	872	1,000
Amortisation	3	3	26	43
Finance costs	570	838	1,897	2,159
EBITDA	8,848	9,138	17,412	19,799

Our EBITDA presented in this Prospectus is a supplemental measure of our performance and liquidity and is not required by, or presented in accordance with MFRS and should not be considered as an alternative to PAT, operating or any other performance measures derived in accordance with MFRS or as an alternative to our cash flows or as a measure of our liquidity. In addition, EBITDA is not a standardised term, hence a direct comparison between companies using such a term may not be possible. Other companies may calculate EBITDA differently from us, limiting its usefulness as a comparative measure. We believe that the presentation of EBITDA facilitates the operating performance comparisons from period to period and from company to company by eliminating potential differences caused by variations in capital structures (affecting finance costs and interest income), tax position (such as the impact on periods or companies of changes in effective tax rates or net operating losses) and the age and book depreciation/amortisation of tangible assets (affecting relative depreciation/amortisation expenses).

- (2) Being the number of Shares assumed in issue immediately prior to the Public Issue.
- (3) Computed based on the PBT divided by the number of Shares assumed in issue.
- (4) Computed based on the PAT attributable to the owners of the Company divided by the number of Shares assumed in issue.
- (5) Computed based on the PAT attributable to the owners of the Company divided by the enlarged number of Shares after the Public Issue for illustrative purposes only.

## 2. SUMMARY INFORMATION (Cont'd)

### 2.6.2 Proforma consolidated statements of financial position

The summarised proforma consolidated statements of financial position as at 31 December 2014 set out below have been prepared for illustrative purposes only to show the effects of the Listing Scheme on our audited consolidated statement of financial positions, had the Listing Scheme been implemented and completed on 31 December 2014 and is prepared on the basis consistent with the accounting policies adopted by our Group.

The summarised proforma consolidated statement of financial positions have been extracted from and should be read in conjunction with the accompanying notes and assumptions included in the Reporting Accountants' Report on the Compilation of Proforma Consolidated Financial Information Included in A Prospectus set out in Section 10.9 of this Prospectus:

	<----- Proforma Group ----->			
	(I)	(II)	(III)	(IV)
Audited Statement of Financial Position as at 31 December 2014 RM'000	After the Acquisitions RM'000	After Proforma (I) and the utilisation of bank overdrafts RM'000	After Proforma (II) and the Public Issue RM'000	After Proforma (III) and the utilisation of proceeds RM'000
<b>ASSETS</b>				
<b>Non-current assets</b>				
Property, plant and equipment	-	18,749	18,749	18,749
Investment properties	-	199	199	199
Investment in an associate	-	202	202	202
Development costs	-	8,734	8,734	8,734
Intangible assets	-	3,750	3,750	3,750
Goodwill on consolidation	-	17	17	17
	-	31,651	31,651	31,651
<b>Current assets</b>				
Inventories	-	627	627	627
Amounts due from customers for contract works	-	69,243	69,243	69,243
Trade and other receivables	1,314	11,865	11,865	11,865
Fixed deposits with licensed bank	-	5,537	5,537	5,537
Cash and bank balances	283	12,794	18,700	(1)49,980
	1,597	100,066	105,972	137,252
<b>TOTAL ASSETS</b>	<b>1,597</b>	<b>131,717</b>	<b>137,623</b>	<b>168,903</b>
		(1)24,780		112,052
				<b>158,703</b>

## 2. SUMMARY INFORMATION (Cont'd)

	<----- Proforma Group ----->				
	(I)	(II)	(III)	(IV)	
Audited Statement of Financial Position as at 31 December 2014 RM'000	After the Acquisitions RM'000	After Proforma (I) and the utilisation of bank overdrafts RM'000	After Proforma (II) and the Public Issue RM'000	After Proforma (III) and the utilisation of proceeds RM'000	
<b>EQUITY AND LIABILITIES</b>					
<b>Equity</b>					
Share capital	2,000	35,200	35,200	44,400	44,400
Share premium	-	15,323	15,323	37,403	(2)35,859
Foreign translation reserve	-	586	586	586	586
Reserve arising from reverse acquisition	-	(26,208)	(26,208)	(26,208)	(26,208)
Retained earnings	(774)	27,171	27,045	27,045	(2)24,389
Shareholders' funds	1,226	52,072	51,946	83,226	79,026
Non-controlling interests	-	(6)	(6)	(6)	(6)
<b>Total equity</b>	1,226	52,066	51,940	83,220	79,020
<b>Liabilities</b>					
<b>Non-current liabilities</b>					
Hire purchase payables	-	1,474	1,474	1,474	1,474
Bank borrowings	-	4,045	4,045	4,045	4,045
Provision for retirement benefits	-	14	14	14	14
Deferred tax liabilities	-	125	125	125	125
	-	5,658	5,658	5,658	5,658
<b>Current liabilities</b>					
Trade and other payables	371	39,968	39,968	39,968	39,968
Amount due to customers for contract works	-	375	375	375	375
Hire purchase payables	-	527	527	527	527
Bank borrowings	-	28,518	34,550	34,550	28,550
Tax payable	-	4,605	4,605	4,605	4,605
	371	73,993	80,025	80,025	74,025
<b>Total Liabilities</b>	371	79,651	85,683	85,683	79,683
<b>TOTAL EQUITY AND LIABILITIES</b>	<b>1,597</b>	<b>131,717</b>	<b>137,623</b>	<b>168,903</b>	<b>158,703</b>
Number of Shares ('000)	10,000	176,000	176,000	222,000	222,000
NA (RM'000) <sup>(3)</sup>	1,226	52,072	51,946	83,226	79,026
NA per share (RM) <sup>(3)</sup>	0.12	0.30	0.30	0.37	0.36

## 2. SUMMARY INFORMATION (Cont'd)

### Notes:

- (1) Included in cash and bank balances is RM6.08 million raised from the Public Issue earmarked for working capital purposes.
- (2) Of the estimated listing expenses of RM4.20 million, RM1.54 million will be written off against the share premium account pursuant to Section 60(3) of the Act. The remaining estimated listing expenses of RM2.66 million will be debited to the Retained Earnings Account.
- (3) Attributable to owners of Dolphin.

Further details on the financial information are set out in Section 10 of this Prospectus.

## 2.7 SUMMARY OF RISK FACTORS

You should carefully consider the following risk factors (which may not be exhaustive) in addition to the other information contained in this Prospectus before investing in our Shares:

- (a) Risks relating to our business and industry:
  - (i) We are affected by political, economic and market factors that are beyond our control;
  - (ii) Dependence on the palm oil industry as our customers operate in the palm oil industry;
  - (iii) Our products and technology solutions may become obsolete due to technological developments in the market and our R&D activities may not yield the benefits that we expect;
  - (iv) We may not be able to adequately safeguard our intellectual property rights and potential trademark or copyright infringement;
  - (v) Dependence on the services of contractors for certain fabrication and labour intensive mechanical engineering and civil engineering works;
  - (vi) The continuous employment and performance of our experienced Directors, key management personnel and skilled personnel are pivotal to our success;
  - (vii) Loss of profits due to unanticipated cost overruns and project delays;
  - (viii) Warranty claims by our customers and defects liability incurred;
  - (ix) Our ability to continuously and consistently secure new contracts;
  - (x) Fluctuation of revenue and profitability;
  - (xi) Competition faced by our Group from existing market players and new market entrants;
  - (xii) Risk of failure during our Group's expansion into foreign markets;
  - (xiii) Risk of foreign exchange rate instability as a portion of our Group's revenue is denominated in foreign currencies; and
  - (xiv) Risks faced by our Group pursuant to the joint venture agreement entered into by Dolphin Applications with its joint venture partners to establish PT Emas Hijau.

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**2. SUMMARY INFORMATION (Cont'd)**

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- (b) Risks relating to our Shares:
- (i) Our Promoters control a significant portion of our Shares which may result in our Promoters being able to influence the outcome of certain matters requiring the vote of shareholders;
  - (ii) There has been no prior trading market for our Shares and a market for our Shares may not develop;
  - (iii) Future sale of our Shares in large quantities could adversely affect our Share price;
  - (iv) Investment in the capital market exposes the investor to capital market risk;
  - (v) Unforeseeable events could result in the delay in Listing or the termination of the Listing exercise;
  - (vi) We are a holding company and, as a result, are dependent on dividends from our subsidiaries to meet our obligations and to provide funds for payment of dividends on our Shares;
  - (vii) New investors will incur immediate dilution and may experience further dilution due to our IPO Price being higher than our proforma consolidated NA per Share;
  - (viii) Negative publicity may adversely affect our Share price; and
  - (ix) We may issue future securities for additional funding for our future growth which will result in a dilution to our Shareholders.
- (c) Other risks
- (i) Unfavourable financial and economic developments in Malaysia may have an adverse effect on us; and
  - (ii) Forward-looking statements may not be reflective of our future prospects.

Further details on the risk factors are set out in Section 4 of this Prospectus.

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### 3. PARTICULARS OF THE IPO

#### 3.1 OPENING AND CLOSING OF APPLICATION

The Application will open at 10.00 a.m. on 20 May 2015 and will remain open until 5.00 p.m. on 28 May 2015 or for such date or dates as our Board and HLIB at their absolute discretion may jointly decide. Late Applications will not be accepted.

#### 3.2 INDICATIVE TIMETABLE

The indicative timing of events leading up to the listing of and quotation for our entire enlarged issued and paid-up share capital on the Main Market is set out below:

Event	Indicative date
Opening date of Application for the IPO	20 May 2015
Closing date of Application for the IPO	28 May 2015
Balloting of Applications	1 June 2015
Allotment of IPO Shares to successful applicants	8 June 2015
Listing date	9 June 2015

Save for the opening date of the Application for the IPO, these dates are tentative and are subject to changes which may be necessary to facilitate implementation procedures.

Applications will be accepted from 10.00 a.m. on 20 May 2015 and will remain open until 5.00 p.m. on 28 May 2015 or such later date or dates as our Board and HLIB at their absolute discretion may jointly decide.

Should the closing date of the Applications be extended, the dates for the balloting, allotment and listing of our entire enlarged issued and paid-up share capital on the Main Market might be extended accordingly. We will notify all parties via an advertisement in a widely circulated English and Bahasa Malaysia newspaper in Malaysia in the event there is an extension of time on the closing date of the Applications.

#### 3.3 DETAILS OF THE IPO

##### 3.3.1 Public Issue

The 46,000,000 IPO Shares, representing approximately 20.72% of our enlarged issued and paid-up share capital, issued at the IPO Price, payable in full upon application, is subject to the terms and conditions of this Prospectus and will be offered in the following manner:

##### (i) Malaysian Public

15,000,000 IPO Shares representing 6.76% of our enlarged issued and paid-up share capital will be made available for application by the Malaysian Public investors through a balloting process, of which at least 50% shall be set aside for Bumiputera investors including individuals, companies, societies, co-operatives and institutions.



**3. PARTICULARS OF THE IPO (Cont'd)****(ii) Eligible Directors and employees of our Group and persons who have contributed to the success of our Group**

8,250,000 IPO Shares, representing approximately 3.72% of our enlarged issued and paid-up share capital, will be made available for application by the Eligible Persons.

A total of 115 persons are eligible for the 8,250,000 IPO Shares allocation, comprising the following:

	<b>Number of persons</b>	<b>Aggregate number of Shares allocated</b>
Eligible Directors of our Group	4	500,000
Eligible employees of our Group	64	3,085,000
Persons who have contributed to the success of our Group	47	4,665,000
<b>Total</b>	<b>115</b>	<b>8,250,000</b>

The number of IPO Shares to be allocated to our Directors is as follows:

<b>Name</b>	<b>Designation</b>	<b>Number of Shares allocated</b>
Datuk Zaiton Binti Mohd Hassan	Senior Independent Non-Executive Chairperson	200,000
Dr Abdul Azis Bin Ariffin	Independent Non-Executive Director	100,000
Kamaruddin Bin Osman	Independent Non-Executive Director	100,000
Lee Yow Fui	Independent Non-Executive Director	100,000
<b>Total</b>		<b>500,000</b>

The criteria for allocation to our Directors and employees are based on amongst others, length of service, seniority and job responsibilities, past contribution to our Group's success and potential contribution to our Group in the future.

The criteria for allocation to persons who have contributed to the success of our Group are based on amongst others, historical value of business transactions, length of business relationship and future business potential with our Group.

The above allocation is subject to the Eligible Persons subscribing to their respective allocations.

**(iii) Selected eligible investors and Bumiputera investors approved by the MITI by way of private placement**

22,750,000 IPO Shares, representing 10.25% of our enlarged issued and paid-up share capital will be made available for application by way of private placement of which 2,500,000 IPO Shares, representing 1.13% of our enlarged issued and paid-up share capital, will be made available to selected eligible investors and 20,250,000 IPO Shares, representing 9.12% of our enlarged issued and paid-up share capital, will be made available to Bumiputera investors approved by the MITI.

### **3. PARTICULARS OF THE IPO (Cont'd)**

The IPO Shares will increase our issued and paid up capital from 176,000,010 Shares to 222,000,010 Shares.

#### **3.3.2 Underwriting arrangement and allocation of the IPO Shares**

The basis of allocation of our IPO Shares shall take into account the desirability of distributing our IPO Shares to a reasonable number of applicants with a view of broadening our Company's shareholding base to meet the public shareholding spread requirements as per the Listing Requirements and to establish a liquid and adequate market for our Shares.

The 15,000,000 IPO Shares available for application by the Malaysian Public via balloting and the 8,250,000 IPO Shares available for application by the Eligible Persons in respect of Sections 3.3.1(i) and 3.3.1(ii) of this Prospectus respectively, are fully underwritten by the Underwriter.

In the event of an under-subscription of the 15,000,000 IPO Shares available for application by the Malaysian Public via balloting in respect of Section 3.3.1(i), the unsubscribed IPO Shares will be made available to the selected eligible investors by way of private placement.

The 8,250,000 IPO Shares available for application by the Eligible Persons in respect of Section 3.3.1(ii) of this Prospectus which are not taken up will be first re-offered to our Group's other Eligible Persons. Subsequently, any of the IPO Shares re-offered which are not taken up will be made available for application by the Malaysian Public via balloting on a fair and equitable manner and/or to selected eligible investors by way of private placement.

Any further IPO Shares not subscribed for will be made available for subscription by our Underwriter based on the terms of the Underwriting Agreement.

The 22,750,000 IPO Shares available for application by way of private placement by selected eligible investors and Bumiputera investors approved by the MITI in respect of Section 3.3.1(iii) of this Prospectus are not underwritten as written irrevocable undertakings to subscribe for these IPO Shares have been procured from the respective selected eligible investors and Bumiputera investors approved by the MITI. In the event of an under-subscription of the 20,250,000 IPO Shares made available for application by eligible Bumiputera investors approved by the MITI under Section 3.3.1(iii) of this Prospectus, the unsubscribed IPO Shares shall be made available for application by the Bumiputera public as part of the balloting process on a fair and equitable manner. Thereafter, any of the unsubscribed IPO Shares that are reallocated to the Bumiputera public (as part of the balloting process) which are not taken up by the Bumiputera public will be made available for application by the Malaysian Public via balloting on a fair and equitable manner and/or to selected eligible investors by way of private placement.

The number of IPO Shares offered under the Public Issue will not be increased via any over-allotment or "greenshoe" option. There is no minimum subscription to be raised from the Public Issue.

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### 3. PARTICULARS OF THE IPO (Cont'd)

#### 3.4 SHARE CAPITAL

	No. of Shares	RM
Authorised	500,000,000	100,000,000
Existing issued and fully paid-up as at the LPD	176,000,010	35,200,002
New shares to be issued as fully paid-up pursuant to the Public Issue	46,000,000	9,200,000
Enlarged issued and paid-up share capital upon Listing	222,000,010	44,400,002

Our market capitalisation upon Listing, based on the IPO Price and our enlarged issued and paid-up share capital of 222,000,010 Shares amounts to RM150,960,006.80.

As at the date of this Prospectus, we have only 1 class of shares in Dolphin, namely ordinary shares of RM0.20 each. The IPO Shares will rank *pari passu* in all respects with our other existing issued and fully paid-up ordinary shares, including voting rights and rights to all dividends and distributions that may be declared subsequent to the date of allotment.

Subject to any special rights attached to any shares which may be issued by our Company in the future, the holders of ordinary shares in our Company shall, in proportion to the amount paid-up on the ordinary shares held by them, be entitled to share in the whole of the profits paid out by our Company as dividends and other distributions. In respect of the whole of any surplus in the event of winding up of our Company, such surplus shall be distributed among our members in proportion to the paid-up capital at the commencement of the winding up, in accordance with the Articles of Association of our Company.

At any general meeting of our Company, each shareholder shall be entitled to vote in person or by proxy or by attorney, and, on a show of hands, every person present who is a shareholder or representative or proxy or attorney of a shareholder shall have 1 vote, and, on a poll, every shareholder present in person or by proxy or by attorney or other duly authorised representative shall have 1 vote for each ordinary share held. A proxy may, but need not be, a member of our Company.

#### 3.5 PURPOSE OF THE IPO

The purposes of the IPO are as follows:

- (i) to obtain the listing of and quotation for our entire enlarged issued and paid-up share capital on the Main Market;
- (ii) to accord our Company with potential benefits, such as higher visibility and exposure of our Group to potential customers, suppliers and investing public, by having our Shares traded on a regulated securities market;
- (iii) to enable us to gain access to the capital markets for funds for future expansion and growth, which provides flexibility to our Group in our choice of cost effective financing alternatives;
- (iv) to enhance the stature of our Group in the marketing of our products, and to retain and attract new, skilled employees particularly in the palm oil milling machineries sector; and

### 3. PARTICULARS OF THE IPO (Cont'd)

- (v) to provide an opportunity for the Malaysian Public, including the Eligible Persons and institutions to participate in our continuing growth by way of equity participation.

#### 3.6 BASIS OF ARRIVING AT THE IPO PRICE

The IPO Price was determined and agreed upon by us and HLIB as the Adviser, Underwriter and Placement Agent, based on various factors after taking into account, inter-alia the following factors:

- (i) our Group's operating and financial history as outlined in Sections 6.1 and 10.1 respectively of this Prospectus. Based on the PAT of our proforma consolidated financial statements for the FYE 2014 and enlarged issued and paid-up share capital upon Listing of 222,000,010 Shares, our Group's net EPS is 5.46 sen which translates into a net PE Multiple of approximately 12.45 times;
- (ii) the overview and prospects of the industry in which our Group operates in terms of:
- (a) the overview and growth potential of the palm oil milling machineries sector in which our Group has focused in since 1995; and
- (b) the growth of the Malaysian and global economy.

Further details on the overview and prospects of the industry in which our Group operates are outlined in Section 5 of this Prospectus;

- (iii) our future plans and strategies, which may improve our future financial performance, including but are not limited to the following:
- (a) continuous development as driver for future growth;
- (b) introduction of our Dolphin-branded consumable parts;
- (c) continuous efforts to expand customer base; and
- (d) construction and establishment of a POM to show case our products.

Further details of our future plans and strategies are as outlined in Section 6.27 of this Prospectus; and

- (iv) based on the latest proforma consolidated NA as at 31 December 2014 of RM52.07 million, the consolidated NA per Share is RM0.30 and the proforma consolidated NA per Share after the Public Issue and utilisation of proceeds and our enlarged issued and paid-up share capital of 222,000,010 Shares is RM0.36.

However, you should also note that the market price of Dolphin Shares upon the Listing is subject to the uncertainties of market forces and other factors, which may affect the price of Dolphin Shares being traded. You should form your own views on the valuation of the IPO Shares before deciding to invest in our Shares.

### 3. PARTICULARS OF THE IPO (Cont'd)

#### 3.7 UTILISATION OF PROCEEDS

##### (i) Proceeds from the Public Issue

The Public Issue is expected to raise gross proceeds of RM31.28 million for our Group, which shall be utilised in the following manner:

Purpose	Time frame for utilisation from the date of listing	Note	Amount of proceeds	
			RM'000	%
Renovation and extension of factory (which includes the purchase of additional machineries)	24 months	(a)	11,000	35.16
Working capital	24 months	(b)	6,080	19.44
Set-up of a R&D facility	24 months	(c)	4,000	12.79
Repayment of bank borrowings	6 months	(d)	6,000	19.18
Estimated listing expenses	1 month	(e)	4,200	13.43
<b>Gross proceeds</b>			<b>31,280</b>	<b>100.00</b>

Pending the utilisation of proceeds arising from the Public Issue, the proceeds will be placed in interest-bearing accounts, money market instruments and/or deposits with an Approved Financial Institution to be decided by our Board.

The proceeds raised are sufficient to fund all the proposed capital expenditure, repayment of bank borrowings and estimated listing expenses. Any excess is expected to be used toward working capital requirements of our Group.

Notes:

- (a) *Our Group intends to undertake the renovation and extension of our Group's factory cum office building in Shah Alam, Selangor together with the purchase of the relevant machineries for fabrication purposes. The said factory cum office building located in Shah Alam, Selangor was purchased on 4 June 2012 with the intention of expanding and improving our Group's fabrication facilities but is currently vacant pending the finalisation of the renovation and extension plans and designs and the raising of the necessary funds (please refer Section 6.26.1 of this Prospectus for further details on our Group's industrial factory property in Shah Alam, Selangor).*

*The estimated cost for the above will amount to approximately RM19.00 million of which RM11.00 million will be funded via the proceeds of the Public Issue. The remaining RM8.00 million for the purchase of machineries will be financed via our Group's internally generated funds and/or bank borrowings. Our Group had decided to embark on the renovation of the said existing factory building in order to provide our Group with increased fabrication facilities to support our future growth while the extension of the factory is to cater for the additional fabrication, testing, production and storage space in conjunction with the commercialisation of Robo-REST.*

*The breakdown for the said renovation and extension are as follows:*

<i>Description</i>	<i>Estimated amount RM'000</i>
<i>Renovation of the existing factory building</i>	<i>5,000</i>
<i>Extension of the existing factory building</i>	<i>2,000</i>
<i>Purchase of machineries such as overhead cranes, forklifts and oil purifier machines</i>	<i>4,000</i>
	<i>11,000</i>

### 3. PARTICULARS OF THE IPO (Cont'd)

The renovation and extension of our Group's factory cum office building in Shah Alam, Selangor will entail the renovation of the existing factory cum office building, which has an approximate total built up area of 1,093 sqm. The RM5.00 million allocated for the renovation of the existing factory cum office building will be utilised to renovate and refurbish the existing factory cum office building as well as expand the present first floor for the purposes of setting up our administrative office, which would increase the built up area to approximately 1,635 sqm. The RM2.00 million allocated for the extension of the existing factory building will be utilised for the construction of a new connecting high-ceiling single storey factory building, with a new built up area of approximately 790 sqm. The renovation and extension of our Group's factory cum office building in Shah Alam will increase the total built up area to approximately 2,425 sqm.

Upon completion of the renovation and extension of our Shah Alam factory cum office building, we intend to utilise the renovated existing factory cum office building for the fabrication and assembly of existing products, for warehousing and as our administrative office. Whereas, the new connecting factory building will be entirely utilised for the fabrication, testing, production and storage of the Robo-REST (please refer Section 6.15.3 of this Prospectus for further details on the Robo-REST).

Notwithstanding the abovementioned, the commercialisation of the Robo-REST is not contingent upon the extension of our Group's factory cum office building in Shah Alam, Selangor as the said commercialisation can still be undertaken at the present premises of our Group, albeit at a smaller scale. Whilst it is envisaged that the successful commercialisation of the Robo-REST may cause disruptions to other business activities of our Group (based on existing floor space), the renovation and extension of our factory cum office building in Shah Alam, Selangor as disclosed above, will provide more room for our Group's future growth and is expected to contribute positively to our future earnings.

Barring any unforeseen circumstances, we expect to obtain the Certificate of Completion and Compliance ("CCC") and occupy the factory within 18 months from our Listing whereby 3 months will be utilised to apply to the relevant authorities and obtain the approval for the building plan (for the extension and renovation works) or in any case prior to the commencement of the renovation and extension works. Following thereto, a further 12 months will be utilised to complete the renovation and extension of the factory cum office building. Following the completion of the renovation and extension of the factory cum office building, we expect to obtain the CCC for the said extension and renovation works from the appointed registered architect prior to our occupation of the factory cum office building premise within a further 3 months. Further to the abovementioned, we have provided an undertaking to the SC that we will provide updates to the SC on the progress of the said renovation and extension works on a semi-annual basis as well as upon obtaining the CCC after the completion of the said renovation and extension of the factory. The purchase of machineries will be undertaken as and when the factory building is ready to accommodate the installation of the said machineries.

- (b) A total of RM6.08 million from the proceeds of the Public Issue will be allocated for working capital to finance our day-to-day operations which include the procurement of materials and parts and operating expenses as detailed below:

<b>Description of working capital</b>	<b>Estimated amount RM'000</b>
Procurement of materials and parts, namely steel sheets and plates, metal bars, hydraulic parts, control panels and system enclosures	5,000
Operating expenses	1,080
	<u>6,080</u>

### 3. PARTICULARS OF THE IPO (Cont'd)

- (c) Our Group has allocated RM4.00 million of the proceeds to be raised for the expansion of its R&D capabilities via the set-up of a new R&D facility in the Group's factory in Shah Alam, Selangor. The purchase of equipment to be used in the said new R&D facility will commence towards the end of the renovation and extension works to be undertaken at our Group's Shah Alam factory. The break down of the amounts earmarked for this purpose is as follows:

<i>Description of R&amp;D expenditure</i>	<i>Estimated amount RM'000</i>
<i>Set-up of a R&amp;D facility complete with the necessary tools and equipment to be used for the testing of the performance of our prototype products</i>	2,400
<i>Purchase of customised machineries used for the building of prototype parts</i>	1,000
<i>Purchase of software systems used in our Group's R&amp;D activities</i>	<u>600</u>
<i>Total</i>	<u>4,000</u>

- (d) In support of our day-to-day operations, we have obtained bank borrowings in the form of term loans, overdraft facilities and hire purchase financing. These borrowings were undertaken to finance the purchase of property, plant and equipment, working capital, purchase of materials and parts as well as payment to suppliers and contractors.

We intend to utilise RM6.00 million from the proceeds of the Public Issue to repay some of our outstanding bank borrowings, the details of which are set out below:

<i>Lender</i>	<i>United Overseas Bank Berhad</i>	<i>Hong Leong Bank Berhad</i>	<i>Alliance Bank Berhad</i>
<i>Type of borrowing</i>	<i>Overdraft facility</i>	<i>Overdraft facility</i>	<i>Overdraft 1 &amp; 2</i>
<i>Facility amount</i>	<i>RM2.0 million</i>	<i>RM2.5 million</i>	<i>RM4.5 million</i>
<i>Outstanding balance as at the LPD</i>	<i>RM1,273,587</i>	<i>RM1,959,191</i>	<i>RM4,147,464</i>
<i>Interest rate</i>	<i>1.25% + BLR</i>	<i>1.50% + BLR</i>	<i>1.25%+BLR</i>
<i>Terms of repayment</i>	<i>Payable on demand</i>	<i>Payable on demand</i>	<i>Payable on demand</i>
<i>Purpose of borrowings</i>	<i>Working Capital</i>	<i>Part financing for the acquisition of factory<sup>(1)</sup> and working capital</i>	<i>Working Capital</i>
<i>Amount to be settled using the proceeds from the Public Issue</i>	<i>RM1.00 million</i>	<i>RM1.00 million</i>	<i>RM4.00 million</i>

Note:

- (1) The Group's factory held under Master Title HSM 30484 PT 5988 (previously Pajakan Mukim 1162, Lot No. 833), Tempat Kinrara, Mukim Petaling, Daerah Petaling, Negeri Selangor which was acquired on 15 June 2012.

At the prevailing interest rates, we expect to enjoy interest savings of approximately RM0.49 million per annum from these repayments of our bank borrowings.

### 3. PARTICULARS OF THE IPO (Cont'd)

(e) *The estimated listing expenses incidental to our Listing is as follows:*

	<i>RM'000</i>
<i>Professional fees</i>	<i>2,370</i>
<i>Fees to the authorities</i>	<i>353</i>
<i>Underwriting commission, brokerage and placement fees</i>	<i>693</i>
<i>Printing and advertising</i>	<i>498</i>
<i>Miscellaneous and contingencies</i>	<i>286</i>
<b>Total</b>	<b>4,200</b>

*Any variation to the estimated listing expenses will result in an adjustment to our working capital.*

Our Company will bear the expenses for the Public Issue comprising underwriting commissions, placement fees, brokerage, registration fees, professional fees, authorities' fees, printing and advertising fees and other fees incidental to the Listing which are estimated at RM4.20 million via the proceeds raised from the Public Issue.

#### (ii) **Financial impact from the utilisation of proceeds**

The proposed utilisation of proceeds from the Public Issue is expected to have, amongst others, the following positive impact on our Group:

##### (a) **Scaling and leveraging on R&D activities**

Our group intends to scale and leverage on R&D activities to ensure that our Group's products, services and systems are relevant to the constantly evolving requirements of the customer and industry. We intend to form strategic collaborations to conduct further R&D to identify the palm oil milling processes which can be further improved through automation. We are currently collaborating with UPM for the commercialisation of the Robo-REST which is an automated sterilisation system that surpasses the performance of conventional sterilisation systems. The utilisation of approximately RM4.00 million for R&D activities is expected to contribute positively to our Group's future earnings.

##### (b) **Interest savings**

A portion of the proceeds from the Public Issue has been allocated for repayment of the Group's bank borrowings, amounting to RM6.00 million bearing interest rate as disclosed in Section 3.7(i), Note (d) of this Prospectus. The Group expects interest savings of approximately RM0.49 million per annum based on the prevailing interest rates of the said bank borrowings.

##### (c) **Improvement in working capital**

The utilisation of approximately RM6.08 million for our Group's working capital will allow our Group to reduce our dependency on bank borrowings and/or other sources of external funding for such purposes. This will also indirectly result in interest savings to our Group.



**3. PARTICULARS OF THE IPO (Cont'd)****3.8 DILUTION**

Dilution is computed as the difference between the IPO Price paid by the applicants for our IPO Shares and the proforma consolidated NA per Share of our Group immediately after the Listing. The following table illustrates such dilution on a per Share basis:

	<b>RM</b>
IPO Price	0.68
Proforma consolidated NA per Share as at 31 December 2014	0.30
Increase in proforma consolidated NA per Share attributable to the existing shareholders	0.06
Proforma consolidated NA per Share after the IPO and proposed utilisation of proceeds (attributable to the owners of Dolphin)	0.36
Dilution in proforma consolidated NA per Share to new investors	0.32
Dilution in proforma consolidated NA per Share to new investors as a percentage of the IPO Price	47.06%

The following table summarises the total number of Shares held by our Promoters, the cost per Share to them and to the new public investors who subscribe for/or purchase the IPO Shares pursuant to the Public Issue:

	Number of Shares held/subscribed	Total consideration RM	Cost per Share RM
Low Teck Yin	63,312,514	12,662,503	0.20
Hoh Yeong Cherng	63,312,527	12,662,505	0.20
Public investors	46,000,000	31,280,000	0.68

There is no other acquisition of any existing Shares by our Directors/substantial shareholders/key management personnel/persons connected with them, or in which they have the right to acquire, since the incorporation of Dolphin.

**3.9 UNDERWRITING COMMISSION, BROKERAGE AND PLACEMENT FEE**

The Underwriter has entered into an Underwriting Agreement on 23 April 2015 with our Company for the underwriting of up to 23,250,000 IPO Shares, which are available for application by the Malaysian Public and the Eligible Persons ("**Underwritten Shares**") subject to the clawback and reallocation provision. We will pay an underwriting commission in respect to the Underwritten Shares at the rate of 3.00% of the IPO Price.

We will pay the brokerage at the rate of 1.00% on the IPO Price in respect of successful applications bearing the stamp of HLIB, member companies of Bursa Securities, members of the Association of Banks in Malaysia, members of the Malaysian Investment Banking Association or Issuing House.

We will pay a placement commission at the rate of up to 3.00% of the value of the 22,750,000 IPO Shares that have been successfully placed out by HLIB based on the IPO Price to placees identified by the Placement Agent or any such parties as may be ascertained by the Company.

The Placement Fee to be incurred on the sale of the IPO Shares will be borne by us.

### 3. PARTICULARS OF THE IPO (Cont'd)

#### 3.10 SALIENT TERMS OF THE UNDERWRITING AGREEMENT

The following are extracts of some of the salient terms contained in the Underwriting Agreement dated 23 April 2015 entered into between our Company and the Underwriter, including terms which allow the Underwriter to withdraw from the underwriting obligation after the opening of the Public Issue. The capitalised terms used in this section shall have the respective meanings as ascribed thereto in the Underwriting Agreement.

- 3.10.1 Subject to certain conditions precedent set out in the Underwriting Agreement, the Underwriter has agreed to underwrite the Underwritten Shares.
- 3.10.2 The Underwriter may by notice in writing to the Company given at any time before the Listing Date, terminate, cancel or withdraw its commitment to underwrite the Underwritten Shares if:
- (a) there is any breach by the Company of any of the representations, warranties or undertakings set out in the Underwriting Agreement in any respect, or in the case of any warranties or representations or undertakings which are not qualified by any materiality requirements, in any material respect; and in either event, where such misrepresentation or breach is capable of remedy, the same not being remedied within five (5) Market Days, but in any event no later than the Closing Date from the provision of a written notice to the Company, as the case may be, by the Underwriters;
  - (b) there is withholding of material information which is required to be disclosed to the Sole Underwriter pursuant to the Underwriting Agreement or in the reasonable opinion of the Sole Underwriter is likely to have a Material Adverse Effect, and if capable of remedy, is not remedied within such number of days as stipulated by the Sole Underwriter in writing to the Company or as stipulated in the notice informing the Company of such breach which, in the opinion of the Sole Underwriter, would have or can reasonably be expected to have, a Material Adverse Effect on the business or operations of the Group, the success of the Initial Public Offering, or the distribution or sale of the Issue Shares;
  - (c) there shall have occurred, happened or come into effect any event or series of events beyond the reasonable control of the Sole Underwriter by reason of Force Majeure which would have or can reasonably be expected to have, a Material Adverse Effect on the business, operations, financial condition or prospects of the Group or the success of the Initial Public Offering or which is reasonably likely to have the effect of making any material obligation under the Underwriting Agreement incapable of performance in accordance with its terms or the Company or any of the Group Companies shall sustain any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labour disturbance or dispute or any action, order or decree of any court or arbitrator or governmental or regulatory authority, in each case, that has had or could reasonably be expected to have a Material Adverse Effect. "**Force Majeure**" means causes which are unpredictable and beyond the reasonable control of the Party claiming force majeure which could not have been avoided or prevented by reasonable foresight, planning and implementation including but not limited to:
    - (i) war, acts of warfare, sabotages, hostilities, invasion, incursion by armed force, act of hostile army, nation or enemy, civil war or commotion, hijacking, terrorism;
    - (ii) riot, uprising against constituted authority, civil commotion, disorder, rebellion, organized armed resistance to the government, insurrection, revolt, military or usurped power; or

### 3. PARTICULARS OF THE IPO (Cont'd)

- (iii) natural catastrophe including but not limited to earthquakes, floods, fire, storm, lightning, tempest, explosions, accident, epidemics or other Acts of God;
- (d) any government requisition or other occurrence of any nature whatsoever which is reasonably likely to have a Material Adverse Effect;
- (e) any material adverse change in national or international monetary, financial and capital markets (including stock market conditions and interest rates), economic conditions or exchange control or currency exchange rates which in the reasonable opinion of the Sole Underwriter is likely to have a Material Adverse Effect (whether in respect of dealings in the Main or ACE Market of Bursa Securities). For the avoidance of doubt, if the FTSE Bursa Malaysia KLCI ("**Index**") is, at the close of normal trading on Bursa Securities on any Market Day:
  - (i) on or after the date of the Underwriting Agreement; and
  - (ii) prior to the Listing Date,
 

lower than 85%, of the level of index at the last close of normal trading on the relevant exchange on the Market Day immediately prior to the date of the Underwriting Agreement and remains at or below that level for at least three (3) consecutive Market Days, it shall be deemed a material adverse change in the stock market condition;
- (f) trading of all securities on Bursa Securities has been suspended or other material form of general restriction in trading for three (3) consecutive Market Days or more;
- (g) any new law or regulation or change in law, regulation, directive, policy or ruling in any applicable jurisdiction is reasonably likely to prejudice the success of the Listing or which is reasonably likely to have the effect of making any obligation under the Underwriting Agreement incapable of performance in accordance with its terms;
- (h) the Initial Public Offering is stopped by the Company or the regulatory authorities for any reason whatsoever; or
- (i) the Listing does not take place on or before 9 June 2015 or within three (3) Market Days after the Settlement Date, whichever is earlier, or such other extended date as may be agreed by the Sole Underwriter.

3.10.3 Upon such notice of termination being given, the Underwriter will be released and discharged of its obligations without prejudice to its rights under the Underwriting Agreement and the Underwriting Agreement will thereafter be of no further force or effect and no Party will be under any liability to any other in respect of the Underwriting Agreement, except that the Company will remain liable in respect of their obligations and liabilities under Clause 3 herein and the Underwriter is entitled to claim the Underwriting Commission together with all costs and expenses already incurred by the Underwriter up to the date on which such notice was given, including but not limited to those incurred in the event the Closing Date is extended, and for the payment of any taxes, duties or levies to be borne by the Company pursuant to applicable laws no later than seven (7) days after the Company's receipt of the termination notice from the Underwriter.

3.10.4 Notwithstanding the other provisions in the Underwriting Agreement, the Underwriter and the Company may confer with a view to defer the Initial Public Offering or amend its terms or the terms of the Underwriting Agreement or enter into a new underwriting agreement accordingly. However, the Company and the Underwriter are not under any obligation whatsoever to enter into a new underwriting agreement.

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#### 4. RISK FACTORS

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**You should evaluate and consider carefully, along with other matters in this Prospectus, the risks (which may not be exhaustive) below. Additional risks, whether known or unknown, may in the future have a material adverse effect on us or our Shares.**

##### 4.1 RISKS RELATING TO OUR BUSINESS AND INDUSTRY

###### 4.1.1 We are affected by political, economic and market factors that are beyond our control

We are not insulated from general business risks as well as certain risks inherent in the industry in which we operate. Some of the business risks which may affect us are a general downturn in the global, regional and Malaysian economy, the entry of new players in the palm oil milling machineries sector, constraints in labour supply and increase in labour costs, changes in law and tax legislation affecting the industry, changes in business and credit conditions and changes in technology.

We will be affected by any changes in the political leadership and/or regulatory and government policies. Such political and/or regulatory changes or uncertainties include (but are not limited to) introduction of new laws and regulations which impose and/or increase restrictions on the palm oil industry, palm oil milling industry and palm oil milling machineries sector such as introduction of protectionist policies such as import/export control and changes in plantation and POM ownership laws.

Any adverse development in the economic uncertainty in Malaysia and/or other countries which we have business links and/or operations in, directly or indirectly, could materially and adversely affect our financial performance. These economic uncertainties can be caused by, amongst others, include global economic downturn and any unfavourable changes in government policies and regulations such as changes in tax laws and foreign currency exchange controls.

For the past four FYE 2011, 2012, 2013 and 2014, approximately 79.30%, 83.05%, 36.83% and 23.35% of our revenue contribution has been derived from the overseas market, mainly Indonesia. Please refer to Section 6.7 of this Prospectus for further information in relation to the revenue contribution from each of the said countries during the Period under Review.

Hence, our business and financial performance may be affected should there be changes to the business environment in any of our overseas markets resulting in more stringent restrictions or unfavourable changes arising from trade restrictions or customs and tariffs.

We seek to mitigate these political, economic and market risks through, amongst others, prudent management policies, upgrading our processes and keeping abreast with new technologies in the palm oil milling machineries sector, maintaining good business relationships with our customers and suppliers, expanding our client and supplier base and effective human resource management to reduce the rate of staff turnover. However, no assurance can be given that changes in any of the abovementioned business risks will not have a material adverse effect on our business.

###### 4.1.2 Dependence on the palm oil industry as our customers operate in the palm oil industry

We are dependent on the palm oil industry as our Group's core competency and competitive edge is having the technology and know-how in providing POMs with a wholly integrated and automated control system. All our revenue during the Period under Review is contributed from customers operating in the palm oil industry. Hence, our operations and financial performance may be adversely affected if the palm oil industry experiences a significant downturn which results in amongst others, lower palm oil production activities, fewer POMs being built, lack of growth in new plantation acreage and shrinking demand for our repairs and maintenance services.

#### 4. RISK FACTORS (Cont'd)

Notwithstanding the above, the Board believes that the prospects of the palm oil industry remain positive going forward as production activities and growth in the palm oil industry is supported by the global growth in demand for palm oil products and various government initiatives to promote sustainable palm oil development and biofuel energy. According to the IMR Report, it is stated that the Malaysian palm oil industry is valued at RM55.26 billion in 2014 and is expected to grow at a CAGR of 5.2% to RM71.17 billion in 2019 while the Indonesian palm oil industry is valued at IDR258.17 trillion in 2014 and is expected to grow at a CAGR of 9.4% to IDR404.05 trillion in 2019.

Nonetheless, there can be no assurance that any adverse change in the palm oil industry will not have a material adverse effect on our operations and financial performance. Some of the potential key drivers which may cause material adverse changes in the palm oil industry are the occurrence of an outbreak of diseases affecting oil palm trees, extreme changes in the climate and adverse fluctuations of CPO prices mainly caused by the existing overall stock levels of CPO and the price fluctuations of the substitutes of CPO, namely soybean oil and rapeseed oil.

##### 4.1.3 **Our products and technology solutions may become obsolete due to technological developments in the market and our R&D activities may not yield the benefits that we expect**

Although we continuously undertake R&D to improve on our existing products or develop and introduce new products for the improvement of the palm oil milling process, we may not be able to accurately anticipate trends in technological or product development and market demand. If the anticipated development trend or market demand does not materialise, our R&D efforts may not yield the anticipated level of economic benefits to our Group. Furthermore, should our R&D efforts prove successful, we may not be able to apply these newly developed technologies to our products that will be accepted by the market or apply them in a timely manner to take advantage of the opportunities presented in the market, which in turn may have an adverse impact on our business and financial performance. In addition, the level of economic benefits that can be derived from newly developed technology solutions or products may be affected by how quickly our competitors can replicate these products or develop newer or cheaper alternatives.

As such, there is the potential risk that if the R&D of new or improved systems do not materialise, it may have an impact on the performance of our Group. However, we will still maintain our business operations through the marketing of our existing range of well proven products. Nevertheless, there is no assurance that our Group's R&D activities will result in the commercialisation of new or improved products that will contribute to the performance of our Group.

##### 4.1.4 **We may not be able to adequately safeguard our intellectual property rights and potential trademark or copyright infringement**

Our commercial success is dependent to a certain degree on the ability to protect our intellectual property rights. As at the LPD, in order to protect against any infringement by unauthorised third parties, we have registered 3 patents and 13 trademarks for various products relating to the palm oil milling process as well as 1 copyright for our in-house developed centralised monitoring software platform and sterilisation control and monitoring software system with MyIPO. In addition, we have also submitted for registration 2 trademarks and 4 patents, for products relating to the palm oil milling process to be recognised in Malaysia and Indonesia. Further details of our trademarks, patents and copyright, including the respective country of recognition are set out in Section 6.21 of this Prospectus.

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**4. RISK FACTORS (Cont'd)**

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We may also file applications for our trademarks, patents and copyrights, if necessary, in other countries in which we have a business presence and countries which we intend to expand our business presence in the future. However, existing intellectual property laws can only offer limited practical protection. There may also be delays in the trademark, patent and copyright registration process and there can be no assurance that such applications will be successful.

Notwithstanding that we have applied for the registration of our trademarks and copyright, it may be possible for competitors to unlawfully pass-off their products as ours or to infringe our trademarks in the design of their marks and/or branding of their products even upon such registration. In the event that third parties infringe our trademarks or copyright by unlawfully passing off their products as our products, imitating or using our trademark without authorisation from us, we may face considerable difficulties and costly litigation which may affect our reputation, businesses and financial performance.

In addition, upon registration, there is no assurance that we can renew the registration of our trademarks, patents and copyright upon their expiry. However, we may still be able to enforce our rights notwithstanding the expiry of such registration if it can be proven that, amongst other factors there is a reasonable degree of goodwill in our use of these trademarks, patents and copyright.

Further, there can be no assurance that our products unwittingly infringe or will infringe other registered trademarks or intellectual property rights belonging to third parties. Although applications have been made to MyIPO for the registration of our trademarks and patents, as at the LPD, our applications for the 2 trademarks and 4 patents as mentioned above have yet to be registered. Further, we may develop other marks or products in the future that may infringe other intellectual property rights and may be subject to legal proceedings and claims relating to such infringement.

The occurrence of any claims or litigation involving the infringement of the intellectual property rights of third parties, whether with or without merit, could result in a diversion of our management's time and resources, and our business operations may be materially and adversely affected. In addition, any successful claim against us arising out of such proceedings could result in substantial monetary liability and will materially affect our reputation and the continued sale of the affected products and consequently, our financial performance.

In mitigation, should there be any infringement of our trademarks, patents or copyright after its successful registration, our Group would pursue legal action and seek the necessary recourse. In addition, our Group's proprietary software products are encoded with unique executable codes which are retained by us to mitigate the risk of piracy. Furthermore, the said unique executable codes are unique to a particular POM which is installed with our Group's software application and cannot be reused by any other software system. As such, without the source codes owned and controlled by us, it is virtually impossible for competitors to use illegally obtained software to their advantage.

Up to the LPD, we have not been involved in any litigation in relation to infringement of intellectual property rights.

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**4. RISK FACTORS (Cont'd)**


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**4.1.5 Dependence on the services of contractors for certain fabrication and labour intensive mechanical engineering and civil engineering works**

We engage the services of external contractors for purposes of fabricating certain product components and parts for the hardware of our products as well as certain mechanical engineering works and civil engineering works, which are generally labour intensive. We outsource the abovementioned fabrication and installation works to our contractors as we believe it would be cost ineffective to maintain a large workforce and premises as the revenue generated by our Group is pre-dominantly project-based in nature. By outsourcing these functions, we have the flexibility to macro manage our contractors and the works undertaken by them without having to employ a large number of workers. We also outsource all civil engineering works to specialised contractors as we do not have the necessary skills and expertise to undertake such works.

Our criteria for the appointment of contractors include a satisfactory prior working experience with them and the competitiveness of their terms of engagement. Once appointed, the contractor enters into a formal contractual relationship with us in respect of the project and production assignment. Notwithstanding this formal contractual relationship, any failure by a contractor to provide its contracted services may result in damages and penalties against us in favour of the customer who awarded us the construction or product supply contract. In the event that we are unable to claim such penalties from our contractors, we may have to fully bear such costs and this may result in an adverse effect on our financial performance and business operations.

However, we believe that the dependence on the services of contractors is mitigated by the following:

- (i) We have established long term relationships with our contractors, who are reliable, have an established track record and are experienced. We also conduct periodic assessment of our contractors as to their ability to deliver their services timely and satisfactorily as well as an assessment of their financial strength;
- (ii) There are numerous suitably qualified contractors in the market; and
- (iii) The contractors are monitored and supervised by our quality control inspectors and project engineers. In addition, we also undertake continuous review, evaluation and discussion to monitor and improve the work progress for each project to ensure timely completion and high quality delivery of projects.

Although we have not previously experienced any major disruption to our operation as a result of our dependence on contractors, no assurance can be given that our Group will be able to procure such services and/or components in a timely manner for our future projects.

**4.1.6 The continuous employment and performance of our experienced Directors, key management personnel and skilled personnel are pivotal to our success**

We attribute our success to the leadership and contributions of our Executive Directors, key management personnel and skilled personnel. We believe that our continued success will depend, to a significant extent, upon the continued employment and performance of our Executive Directors, key management personnel and skilled personnel. Further, due to the specialised and technical nature of the palm oil milling machineries sector, we are also dependent on our key personnel who possess the relevant technical knowledge such as our engineers. The loss of any of our key Directors and members of our senior management team, the profiles of which are set out in Sections 7.1.2, 7.2.2 and 7.3.2 of this Prospectus, without suitable and timely replacement could adversely affect our continued ability to manage our operations effectively and competitively. Our future success also depends on our ability to attract, hire, train and motivate sufficient skilled personnel.

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**4. RISK FACTORS (Cont'd)**

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Our Directors recognise the importance of our ability to attract and retain our key management personnel as well as skilled personnel and have put in place a human resource strategy. This human resource strategy includes suitable compensation packages and a human resource training and development programme for all supporting employees in all key functions of our operations. We have made continuous efforts to strategically develop a dynamic and strong management team and groom the younger members of the management team in assisting our key personnel to operate and manage our operations.

Furthermore, in recognition of their contributions to our Group, pursuant to the Listing, we have reserved 8,250,000 IPO Shares for allocation to the Eligible Persons in order for the eligible Directors and employees to participate directly in the equity of our Company. We also believe that by increasing our profile through our Listing, we will be able to attract more qualified personnel to continuously play an active role in the growth of our Group.

Notwithstanding our efforts to create a conducive working environment and providing motivation to our employees, there is no assurance that the above measures would be successful in retaining our Group's key management and skilled workforce.

**4.1.7 Loss of profits due to unanticipated cost overruns and project delays**

Our revenue is mainly derived from project-based contracts. Although we closely manage and monitor our projects costs, costs overruns may arise during the installation and commissioning stages as a result of unanticipated modification works due to customer requests or unscheduled delays due to delay in readiness of site. In the event the unanticipated modification works are done upon customer requests, we would normally issue variation orders to recoup the costs incurred. In selected events, we may also elect to bear the costs incurred for unanticipated modification works requested by our customers in view of maintaining good relationships but would be dependent upon the cost of such modifications. Notwithstanding the above, failure to meet the completion date of the projects may also lead to damages being claimed by customers, thus affecting our profitability. In addition, customers may delay or cancel their projects due to any unforeseen circumstances at any point of time during the duration of the project. This said delay or cancellation of projects by our customers may have an adverse impact on our financial performance as presently, all contracts entered into for our projects do not include any clauses allowing us to recoup any costs incurred, save for the respective progress billing stages in accordance with the terms and conditions agreed of the said contracts. However, in the event of a delay not caused by us, our Group endeavours to enter into negotiations with our customers for the recovery of any additional costs incurred via the issuance of variation orders.

To mitigate the above risk, our Group will conduct studies on the specifications of each project in order to ensure smooth implementation and avoid cost overrun. In addition, we believe that our management has the experience and expertise and by working closely with our customers, to ensure that all work specifications are met, errors or defects within our projects or products shall be reduced to a minimum level. For the Period under Review, although we have experienced a delay in one project, we have not experienced any project cancellations or material project cost overruns.

Although we strive to maintain a commendable track record of timely project completion with quality and best practices with regard to our services, there can be no assurance that failures would not occur and affect our Group's financial performance and reputation.



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**4. RISK FACTORS (Cont'd)**

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**4.1.8 Warranty claims by our customers and defects liability incurred**

The systems developed and installed by us along with our corresponding equipment must conform to and perform according to our customers' specifications as agreed upon for each project. In the event our products installed do not conform to the pre-agreed specifications or suffer from defective materials and workmanship, we will have to rectify the defects at our own cost resulting in reduced profitability. We provide warranties of 18 months upon delivery or 12 months upon commissioning of the system, whichever comes first, for our products.

Our warranty provided is limited to rectifying or replacing the defective material or defective part, and does not cover any consequential losses due to the daily wear and tear of our equipment installed. We usually factor in a certain amount for such potential defects in estimating/budgeting the total cost of a project undertaken by us. In addition, the breakdown of certain parts of the equipment installed is also covered by the warranties provided by our suppliers.

Our Group has also maintained a reasonable sum of product liability insurance to cover any incidental liability claims for our products installed by us. In addition, our Group has good relationships with our customers based on our track record in meeting our customers' requirements and needs, and as such, any occurrence of unusual or excessive defects may affect our business reputation. Nevertheless, our Directors believe that with our experience and expertise and by working closely with our clients to ensure that all work specifications are met, defects in our projects can be minimised.

Although we have not suffered any material losses as a result of non-performance of project specifications, product warranty claims or claims made for defects liabilities, no assurance can be given that we will not be adversely affected in the event of the abovementioned risk.

**4.1.9 Our ability to continuously and consistently secure new contracts**

Our business is mainly project-based. We therefore have to continuously and consistently secure new sales contracts to sustain our financial performance. There can be no assurance that we will be able to secure new contracts in the future. As such, our profitability and financial performance will depend on our ability to secure new projects on a regular basis. If we are unable to do so for any reason, our profitability and financial performance may be adversely affected. Presently, our Group does not have any intentions to diversify into any other industry.

To mitigate this risk, our management endeavours to establish and maintain good working relationships with our existing and former customers. Our Group constantly engages in various marketing activities with a view to secure new contracts and to expand our customer base. In addition, our Group has allocated RM11.0 million from the proceeds to be raised from the Public Issue for the expansion of facilities and RM4.0 million for the set-up of a R&D facility which is expected to enhance our production and R&D capabilities. With the extensive industry experience and knowledge of our Group's founders, our already well-represented and established products in the largest palm oil producing countries coupled with our "efficient-centric" solutions, we believe the risk of our ability to secure new contracts is well mitigated.

**4.1.10 Fluctuation of revenue and profitability**

Our Group derive a substantial portion of our revenues and profits from the provision of solutions and sale of milling systems, which are mainly project based in nature. The contract sum for a milling system project is usually small in amount and the contract period is relatively short ranging from 3 months to 12 months. On the other hand, a provision of solution project is typically larger in amount and usually stretch over a longer period ranging from 12 months to 24 months.

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**4. RISK FACTORS (Cont'd)**

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Our revenue stream is largely derived from our provision of solutions, which contributed approximately 52.50%, 66.24%, 54.66% and 85.34% to our total revenue for the FYE 2011, FYE 2012, FYE 2013 and FYE 2014 respectively. The revenue generated from the provision of solutions for each financial year will depend substantially on the recognition of revenue from the type of projects secured and undertaken during a particular financial year, based on the percentage-of-completion method. As a result, our Group's revenue and profitability are subject to the type and nature of such projects undertaken and may therefore fluctuate/vary from period to period due to the timing on the recognition of such revenue which coincides with the relevant billing milestones of each specific project (especially for turnkey solutions projects which are awarded in larger sum contracts).

In relation to profitability, our profits for each financial year depends substantially on the contribution generated through the type of contracts secured and the work undertaken for our provision of solutions and sale of milling systems in any financial year. The provision of solutions and the sale of milling systems together contributed 88.79%, 89.87%, 93.69% and 95.18% of the total gross profit of our Group for the FYE 2011, FYE 2012, FYE 2013 and FYE 2014 respectively. Our gross profit margin for each financial year differs as each project differs in terms of scope, length and costs which will have an effect on our gross profit margins. Generally, the provision of solutions, in particular turnkey solutions, will encompass a wider scope, longer duration of contract and higher costs as compared to the rest of the products and services offered by our Group as it involves the prior construction or renovation of a POM. Thus, our Group's profitability is also subject to the nature of such projects and may therefore fluctuate/vary from period to period.

As such, our revenues and profits for any period are not necessarily indicative of revenues and profits that may be expected for any future period. Please refer to Section 10.2 of this Prospectus for further details on our revenues and profitability for the Period under Review.

**4.1.11 Competition faced by our Group from existing market players and new market entrants**

Our Group faces competition from existing competitors in the industry as well as new market entrants. However, our Board believes that the impact of competition from new entrants is mitigated by certain barriers of entry such as, knowledge to design, manufacture, integrate and fabricate systems and hardware, competent technical skills, track record or reliability to produce and deliver dependable and competent systems, which meet the specifications of customers.

Although we continually seek to maintain and adopt appropriate strategies to remain competitive, there can be no assurance that competition from existing competitors and/or new market entrants will not have a material adverse effect on our performance/market share in the future.

**4.1.12 Risk of failure during our Group's expansion into foreign markets**

We have penetrated into foreign markets since 2004. We intend to further expand our business presence in other foreign markets where we believe there is a demand for our services and products. We have set up a permanent presence in Indonesia via our sales and marketing office in Jakarta. In view of our present exposure and future expansion plans in Indonesia, we may be exposed to the risks imposed by the economic, social and political conditions in Indonesia. The profitability of our operations and the success of our expansion plans in Indonesia may be adversely affected due to any political or economic reforms undertaken in Indonesia. In addition, in the event of any government-imposed wage and price controls, mandated industry restructuring and trade barriers, such as high tariffs and customs duties, may negatively affect us. Our continuing expansion in foreign markets may strain our resources including financial resources and may also stretch our management personnel. Any failure to accurately assess the abovementioned issues, amongst others, could affect our Group's business, financial condition and operating results.

#### 4. RISK FACTORS (Cont'd)

In mitigating the above, we comprehensively familiarise ourselves with the relevant business requirements and conditions of the respective foreign markets, namely amongst others, the present condition of the local economy and palm oil milling machineries sector, the current requirements for market entry, the required compliance of all laws and regulations for our business operations in a foreign country, the respective restrictions imposed on a foreign business and knowledge of local industry practices, as well as carefully assess the investment viability of an expansion into new foreign markets. Thereafter, we will carefully implement our expansion plans and our management will continue to monitor closely our Group's operating and financial performance. Through this, our Group will then be able to minimise our risk exposure.

##### 4.1.13 Risk of foreign exchange rate instability as a portion of our Group's revenue is denominated in foreign currencies

A portion of our revenues are denominated in foreign currencies. As such, an appreciation of the RM against the respective foreign currencies may adversely affect our financial performance because it may reduce our revenue reported in RM terms. During the Period under Review, approximately 79.30%, 83.05%, 36.83% and 23.35% of our Group's revenue has been derived from the overseas market, which is denominated in a combination of foreign currency and RM. Notwithstanding the above, our Group's foreign exchange exposure in terms of our total revenue for the FYE 2011 is 39.86%, for the FYE 2012 is 13.93%, for the FYE 2013 is 38.52% and for the FYE 2014 is 28.89%.

Nonetheless, our Group has not been materially affected by the fluctuations of the foreign exchange rates during the Period under Review. Our Group mitigates its exposure to foreign currency fluctuations by the purchase of certain materials and parts as well as engaging sub-contractors and labour in the same foreign currency which we conduct our sales. This forms a natural hedge, ensuring that our Group is not adversely affected by unfavourable foreign currency movements. We also have in place foreign currency accounts to maintain any surplus or unutilised foreign currencies for future payments to foreign suppliers/vendors to further minimise our Group's exposure to foreign currency fluctuations.

Notwithstanding the above, there can be no assurances that foreign currency fluctuations will not materially adversely affect the financial performance of our Group.

##### 4.1.14 Risks faced by our Group pursuant to the joint venture agreement entered into by Dolphin Applications with its joint venture partners to establish PT Emas Hijau

Dolphin Applications had entered into a joint venture and shareholders agreement with its joint venture partners on 16 January 2015 to establish a new associate company, namely PT Emas Hijau wherein Dolphin Applications has a 30% equity interest. PT Emas Hijau is currently dormant and its intended principal activity is that of the building, operating and managing of POMs to be located in Indonesia. Our Group has embarked on this opportunity to show case the full range of our products to our potential customers. As at the LPD, the costs incurred by our Group as part of this initiative is approximately RM0.22 million.

Although the joint venture between Dolphin Applications and its joint venture partners is regulated by the abovementioned joint venture and shareholders agreement, we are nonetheless exposed to certain risks and uncertainties as a result of the joint venture. As the success of PT Emas Hijau is dependent on the fulfilment of the responsibilities and continuous commitment of each joint venture partner, any inability of the respective parties to fulfil their responsibilities or invest in the joint venture in the manner that is anticipated may result in the failure of the joint venture. In the event of any such failure, there are no assurances that we would be able to recoup in full or in part any of the costs incurred.

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**4. RISK FACTORS (Cont'd)**

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To mitigate the above risks, we would take all reasonable steps that are within our control to ensure that our responsibilities and obligations to the joint venture are fulfilled and carried out accordingly. However, any failure by our joint venture partners, which we have no control over, could result in us having to make additional investments or undertake additional obligations in addition to those as stated in the joint venture and shareholders agreement, which could have a material adverse effect on our financial condition.

Please refer to Sections 6.5.7 and 6.27.4 of this Prospectus for further information on PT Emas Hijau.

**4.2 RISKS RELATING TO OUR SHARES****4.2.1 Our Promoters control a significant portion of our Shares which may result in our Promoters being able to influence the outcome of certain matters requiring the vote of shareholders**

Our Promoters, namely, Low Teck Yin and Hoh Yeong Cherng collectively control approximately 57.04% of our enlarged issued and paid-up share capital after the IPO. Consequently, our Promoters may be able to influence the outcome of certain matters, such as the election of Directors and the approval of business ventures requiring the vote of our shareholders, unless they are required to abstain from voting by law and/or by the relevant authorities.

The introduction of corporate governance rules that requires the formation of an Audit Committee, which consists three independent non-executive Directors, may effectively help to promote transparency in all material transactions and our Company's accountability, thereby safeguarding the interests of the minority shareholders. Our Promoters would also be required to abstain from voting if there are any related party transactions which may pose a conflict of interest to that of our Company.

**4.2.2 There has been no prior trading market for our Shares and a market for our Shares may not develop**

There is currently no prior trading market for our Shares. There can be no assurance that an active and liquid market for our Shares will develop upon its Listing or, if developed, that such market will be sustained. There can be no assurance that the IPO Price will correspond to the price at which our Shares will trade on the Main Market upon or subsequent to our Listing.

The IPO Price was arrived at after taking into consideration, inter-alia, our financial and operating history and conditions, our future prospects and the prospects of the industry in which we operate and the prevailing market conditions at the time of the Listing. The IPO Price may not be indicative of prices that may prevail in the trading market after the Listing. In recent years, the stock market in general, and the market for the securities of many companies in particular, has experienced volatile price movements which to a certain extent, were driven by local and global market sentiments. Such fluctuations may increase the market risk of our Shares.

**4.2.3 Future sale of our Shares in large quantities could adversely affect our Share price**

Any future sale of our Shares or our Shares made available in large quantities can have an adverse effect on our Share price. The sale of a significant amount of our Shares in the public market after the IPO, or the perception that such sales may occur, could adversely affect the market price of our Shares. These factors also affect our ability to raise funds from the issue of additional equity securities.

If our Promoters sell, or are perceived to sell, substantial amounts of Shares in the public market following the expiry of the moratorium period, it may result in a dampening effect on our Share price.

#### 4. RISK FACTORS (Cont'd)

##### 4.2.4 Investment in the capital market exposes the investor to capital market risk

The performance of the local bourse is very much dependent on external factors such as the performance of the regional and world bourses and the inflow or outflow of foreign funds. Sentiments are also largely driven by internal factors such as the economic and political conditions of the country as well as the growth potential of the various sectors of the economy.

These factors invariably contribute to the volatility of trading volumes witnessed on Bursa Securities, thus adding risks to the market price, which may already fluctuate significantly and rapidly as a result, *inter-alia*, of the following factors:

- differences between our Company's actual financial and operating results and those expected by investors and analysts;
- announcements by us or our competitors of significant contracts, acquisitions, strategic alliances, joint ventures or capital commitments;
- fluctuations in stock market prices and volume;
- changes in our Company's operating results;
- changes in securities analysts' estimates of our Company's financial performance and recommendations;
- change in market valuation of similar companies;
- our involvement in litigation, arbitration or other forms of dispute resolution;
- additions or departures of key personnel; and
- changes in general economic and stock market conditions.

##### 4.2.5 Unforeseeable events could result in the delay in Listing or the termination of the Listing exercise

The occurrence of any one or more of the following events, which may not be exhaustive, may cause a delay in our Listing or our Listing to be aborted:

- (i) the placees under the private placement fail to acquire the Public Issue Shares allocated to them;
- (ii) the Underwriter exercising the rights pursuant to the Underwriting Agreement to discharge themselves from their obligations thereunder; or
- (iii) we are unable to meet the public spread requirement as determined by Bursa Securities, i.e. at least 25% of our enlarged issued and paid-up ordinary share capital must be held by a minimum number of 1,000 public shareholders holding not less than 100 Shares each at the point of our Listing;

However, our Board will endeavour to ensure that our Company complies with the various provisions of the Listing Requirements, including, *inter-alia*, the public spread requirement.

In the event of the failure of our Listing, all monies paid in respect of any application accepted from you will be returned in full without interest within 14 days failing which the provision of sub-section 243(2) of the CMSA shall apply accordingly.

#### 4. RISK FACTORS (Cont'd)

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In the event that the Listing is aborted and our Shares have been allotted to new investors, the return of monies to the holders of our Shares could only be achieved by way of cancellation of share capital as provided under the Act and its related rules. Such cancellation requires the sanction of our shareholders by special resolution in a general meeting, consent of our creditors (unless dispensation with such consent has been granted by the High Court of Malaysia) and the confirmation of the High Court of Malaysia. There can be no assurance that such monies can be recovered within a short period of time or at all in such circumstances.

##### **4.2.6 We are a holding company and, as a result, are dependent on dividends from our subsidiaries to meet our obligations and to provide funds for payment of dividends on our Shares**

We are a holding company and conduct substantially all of our operations through our subsidiaries. Accordingly, dividends and other distributions received from our subsidiaries are our principal source of income. Consequently, the amount of these dividends and distributions are an important factor in our ability to pay dividends on our Shares (to the extent declared by our Board). The ability of our subsidiaries to pay dividends or make other distributions to us is subject to the availability of distributable reserves, applicable legal restrictions contained in their loan agreements and to these companies' having sufficient funds that are not needed to fund their operations, other obligations or business plans.

In addition, changes in the Malaysian Financial Reporting Standards ("MFRSs"), if any, may affect the ability of our subsidiaries (and consequently us) to declare and pay dividends. At this juncture, there are no applicable MFRSs that will affect the ability of the subsidiaries to declare and pay dividend. However, should there be amendments on the MFRSs or new MFRSs to be issued in the future which will have an impact on the profit of our subsidiaries, these may affect the ability of the subsidiaries to declare and pay dividend due to lower profits and dividend payable under single-tier system. As we are a shareholder of our subsidiaries, our claims as a shareholder will generally rank junior to all claims of our subsidiaries' creditors and claimants. In the event of a liquidation of a subsidiary, there may not be sufficient assets for us to recoup our investments in that subsidiary.

##### **4.2.7 New investors will incur immediate dilution and may experience further dilution due to our IPO Price being higher than our proforma consolidated NA per Share**

Our IPO Price of RM0.68 per Share is substantially higher than our proforma consolidated NA per Share of RM0.36 as at 31 December 2014 after the IPO and proposed utilisation of proceeds as referred to in Section 3.7 of this Prospectus. If we were liquidated immediately following this IPO, each investor subscribing to this IPO would receive less than the price paid for their Shares. Please refer to Section 3.8 of this Prospectus for further details on dilution.

##### **4.2.8 Negative publicity may adversely affect our Share price**

Negative publicity involving our Group, any of our Directors or our controlling shareholders may adversely affect the market perception or the stock performance of our Company, whether or not it is justified. Some examples are unsuccessful attempts at joint ventures, takeovers or involvement in insolvency proceedings.

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#### **4. RISK FACTORS (Cont'd)**

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##### **4.2.9 We may issue future securities for additional funding for our future growth which will result in a dilution to our Shareholders**

Secondary issue(s) of securities after the IPO may be necessary to raise the required capital to fund our growth capital. If new Shares placed to new and/or existing shareholders are issued after the IPO, they may be priced at a discount to the then prevailing market price of our Shares trading on Bursa Securities, in which case, existing shareholders' equity interest may be diluted. If we fail to utilise the new equity to generate a commensurate increase in earnings, our EPS will be diluted, and this could lead to a decline in our Share price. Any additional debt financing may, apart from increasing interest expenses and gearing, contain restrictive covenants with respect to dividends, future fund raising exercises and other financial and operational matters.

#### **4.3 OTHER RISKS**

##### **4.3.1 Unfavourable financial and economic developments in Malaysia may have an adverse effect on us**

We are incorporated in Malaysia, and a majority of our assets are located or registered in Malaysia. As a result, we are subject to political, social, economic, legal and regulatory risks specific to Malaysia. Also, general economic conditions in Asia may have an effect on our business, financial condition and results of operations, as well as our future prospects. The recent global financial crisis, the recent European sovereign debt crisis, recent developments in Middle East, volatile oil prices, the general weakness of the global economy and the risks faced by our customers in the palm oil industry as disclosed in Section 4.1.2 above have increased the uncertainty of global economic prospects and the prospects of the palm oil milling machineries sector which may continue to adversely affect the Malaysian economy and palm oil milling machineries sector. Any future deterioration of the Malaysian and global economy could adversely affect our business, financial condition and results of operations.

##### **4.3.2 Forward-looking statements may not be reflective of our future prospects**

Our Prospectus contains forward-looking statements, which are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Whilst the interpretation of this information may be forward-looking, the contingencies and inherent uncertainties underlying this information should be carefully considered by the investors and should not be regarded as a representation by our Company and our advisers that the objectives and the future plans of our Company will be achieved. Any differences in the expectation of our Company from our actual performance may result in our Company's financial and business performances and plans to be either, materially or immaterially, different from those anticipated.

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## 5. INDUSTRY OVERVIEW

*(Prepared for inclusion in this Prospectus)*

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Protégé  
ASSOCIATES

BRAND | FINANCE | MARKET

30 APR 2015

The Board of Directors  
DOLPHIN INTERNATIONAL BERHAD  
Level 2, Tower 1, Avenue 5  
Bangsar South City  
59200 Kuala Lumpur  
Malaysia

Dear Sirs,

**Executive Summary of the Palm Oil Industry and Palm Oil Milling Machineries  
Sector in Malaysia and Indonesia**

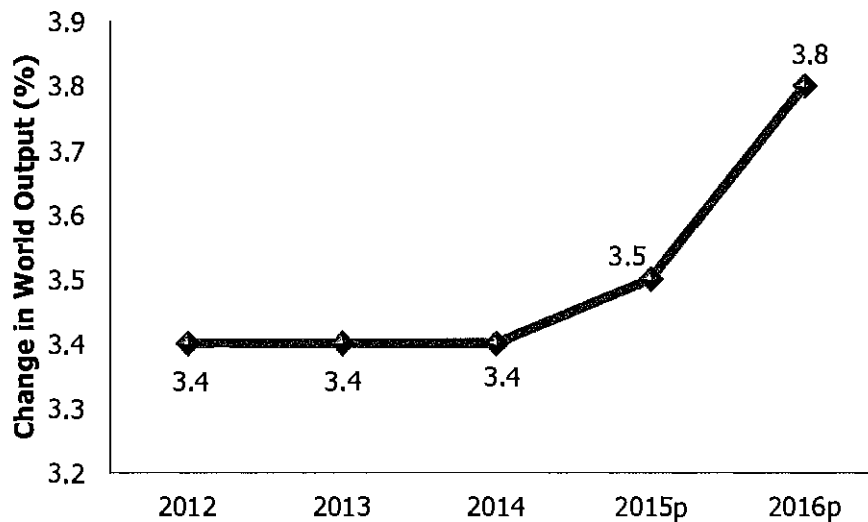
This Executive Summary of the Independent Market Research report titled 'The Palm Oil Industry and Palm Oil Milling Machineries Sector in Malaysia and Indonesia' by Protégé Associates Sdn. Bhd. ("Protégé Associates") dated April 2015 (known as IMR report hereon) is prepared for inclusion in the Prospectus of Dolphin International Berhad Group ("Dolphin" or "the Company") in relation to the proposed listing of Dolphin on the Main Market of Bursa Malaysia Securities Berhad.



## 1 GLOBAL ECONOMIC OVERVIEW

The global economy emerged on a positive note by registering a growth of 3.4 percent in 2014 - the same pace recorded in 2013. The growth in the world output (which is equivalent to the real Gross Domestic Products ("GDP")) was mainly supported by growth in the emerging and developing economies. Figure 1 depicts the world output from 2012 to 2016.

**Figure 1: World Output, 2012-2016**



*Notes:*

1. *p denotes projection;*
2. *The forecasts account for 90 percent of the world purchasing-power-parity weights.*

*Source: IMR Report*

The economic growth in advanced economies expanded by 1.8 percent in 2014 as compared to 1.4 percent in 2013. The United States of America ("US") registered a better economic growth performance in 2014 by registering a 2.4 percent growth in its output as compared to 2.2 percent in the previous year. The growth in the US economy was mainly supported by accommodative monetary policies, favourable financial conditions, reduced fiscal drag as well as an improving job market that spurred consumer spending. In the Far East, Japan's economy entered the negative territory with a contraction of 0.1 percent in 2014 as compared to a 1.6 percent expansion in 2013. The contraction in the Japanese economy was mainly attributed to the negative impact from the hike in consumption tax rate that was

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**5. INDUSTRY OVERVIEW (Cont'd)**

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implemented earlier in the year. Meanwhile, the output growth in the Euro Area rebounded into positive territory with a 0.9 percent expansion recorded in 2014 as compared to a 0.5 percent contraction in 2013 – supported by lower fiscal drag, accommodative monetary policies as well as better lending conditions.

The emerging market and developing economies have remained resilient and once again proved to be the sustaining force for global economic growth. China's economic growth of 7.4 percent helped to support the overall estimated output of the emerging market and developing economies to 4.6 percent in 2014 (2013: 5.0 percent). Meanwhile, the emerging and developing Asia region as a whole registered a growth of 6.8 percent in 2014 (2013: 7.0 percent).

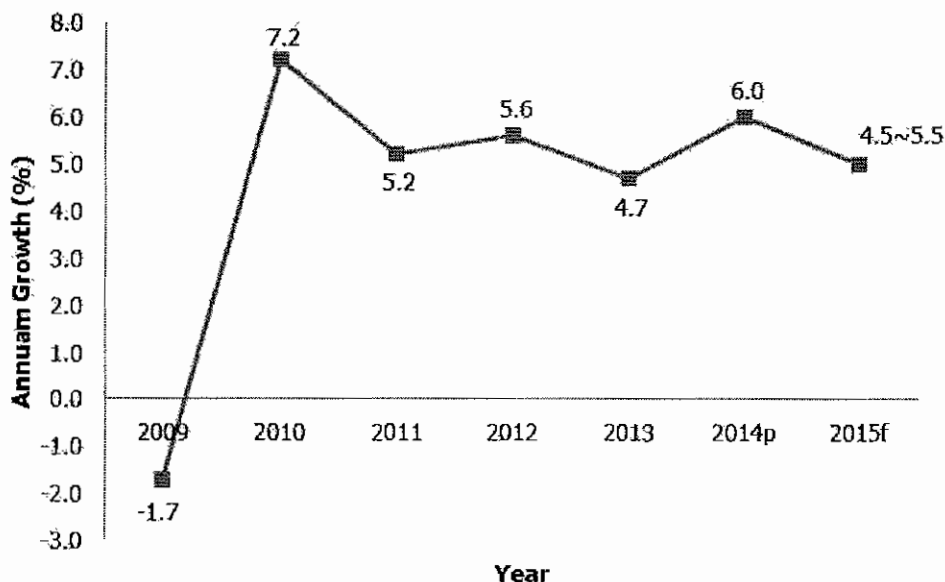
Moving forward, the expansion in the global economy is set to continue in the near future. World output is projected to increase by 3.5 percent and 3.8 percent in 2015 in 2016 respectively. The projected economic growth in the advanced economies particularly in the US as well as the emerging markets and developing countries are expected to provide the impetus for the strengthening of the global economy. However, there is a need for policymakers to implement structural reforms to sustain or drive growth. In addition, downside risks such as geopolitical risks, uncertainties in the future path of oil prices, threat of global disease outbreaks as well as any sharp and rapid rise in longer-term interest rates particularly in the US remain a concern to the global economy.

## 5. INDUSTRY OVERVIEW (Cont'd)

## 2 MALAYSIA ECONOMIC OVERVIEW

The Malaysian economy registered a strong finish in 2014. It expanded at a faster pace of 6.0 percent in 2014 on the back of continued expansion in domestic demand and an improvement in external trade performance. Figure 2 depicts Malaysia's real GDP at 2005 prices from 2009 to 2015.

**Figure 2: Malaysia's Real GDP Growth, 2009-2015**



*Notes:*

1. Real GDP at 2000 prices from 2009 to 2010, real GDP at 2005 prices from 2011 to 2014;
2. *p* denotes preliminary
3. *f* denotes forecast.

*Source: IMR Report*

The overall labour market condition in Malaysia was stable in 2014. The unemployment rate sustained at 2.9 percent of labour force in 2014. Headline inflation (as measured by the annual percentage change in the Consumer Price Index ("CPI")) averaged 3.2 percent in 2014 following the inflation in the transport, food and non-alcoholic beverages categories. Figure 3 below shows the headline inflation in Malaysia, measured by the annual percentage change in the CPI, from 2009 to 2014.

## 5. INDUSTRY OVERVIEW (Cont'd)



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**Figure 3: Malaysia's Inflation Rate, 2009 – 2014**

	2009	2010	2011	2012	2013	2014
Annual Change in CPI (%)	0.6	1.7	3.2	1.6	2.1	3.2

*Source: IMR Report*

A closer look at the economic activities in Malaysia reveals that all the major economic sectors registered growth at a faster pace in 2014. Figure 4 below depicts the annual change of key economic sectors in Malaysia from 2009 to 2014.

**Figure 4: Annual Change of Malaysian Economic Sector, 2009 –2014**

Sector	Annual Change (%)					
	2009	2010	2011	2012	2013	2014p
Agriculture, Forestry and Fishery	0.4	2.1	5.9	1.0	2.1	2.6
Construction	5.8	5.1	4.6	18.1	10.9	11.6
Manufacturing	-9.4	11.4	4.7	4.8	3.5	6.2
Mining and Quarrying	-3.8	0.2	-5.7	1.4	0.7	3.1
Services	2.6	6.8	7.0	6.4	5.9	6.3

*Note: p denotes preliminary**Source: IMR Report*

Despite the positive results revealed in most of Malaysia's key economic indicators for 2014, the Malaysian government is mindful of a potentially continuing weak energy and commodity prices which may be a major economic headwind for the local economy. In the near future, the growth in the Malaysian economy is expected to be anchored again by domestic demand. Domestic demand is expected to be led by private expenditure that is forecast to register an increase of 6.0 percent in 2015. The Malaysian Government has reiterated its intention to continue focusing on accelerating the national transformation process and supporting growth while improving public finance and ensuring fiscal sustainability.

In the 2015 Budget, the Malaysian Government had outlined seven main strategies namely advancing the Bumiputera agenda, developing human capital and entrepreneurship, developing the national youth transformation programme, enhancing fiscal governance, prioritising the well-being of the people, strengthening economic growth and upholding the

## 5. INDUSTRY OVERVIEW (Cont'd)



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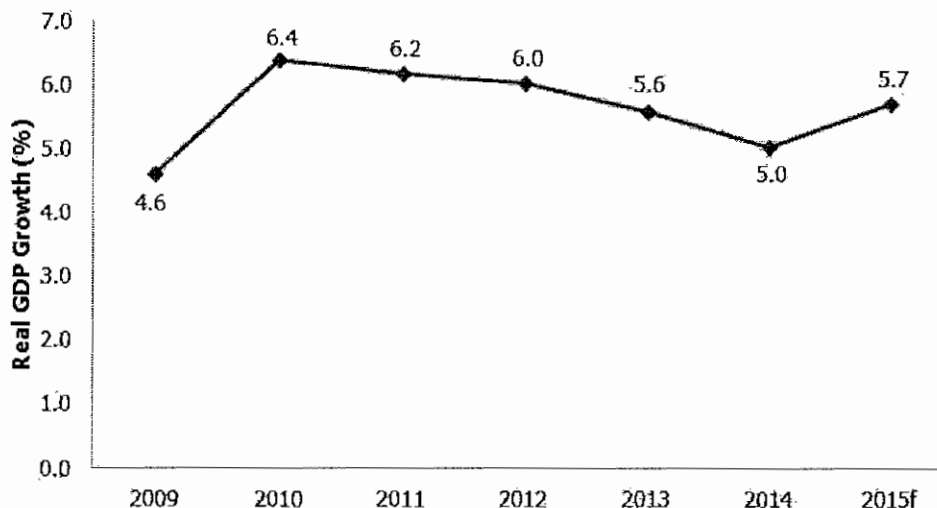
role of women. RM48.5 billion has been allocated under the 2015 Budget for development expenditure.

The Malaysian economy is expected to grow by between 4.5 to 5.5 percent in 2015. The projected slower pace in growth for 2015 is due to the expectations of a moderated rate of private consumption as well as slower investments and export growth in the oil and gas industry. The services sector is expected to remain the largest contributor to the economy by accounting for more than half of Malaysia's real GDP in 2015. In terms of pace of growth, the construction sector is expected to register the fastest pace among all the key economic sectors in 2015.

## 3 INDONESIA ECONOMIC OVERVIEW

Indonesia's economic growth was moderated in 2014 by recording a real GDP growth of 5.0 percent as compared to 5.9 percent in 2013. The slowdown in economic growth was mainly attributed to a slower pace of investment and net export. Figure 5 depicts the Indonesian Real GDP growth at 2009 prices from 2011 to 2015.

**Figure 5: Indonesia's Real GDP Growth, 2009-2015f**



**Notes:**

1. Real GDP at 2000 prices in 2009, real GDP at 2005 prices from 2010 to 2014;
2. f denotes forecast.

Sources: IMR Report

**5. INDUSTRY OVERVIEW (Cont'd)**



In 2013, Indonesia’s economy registered 5.6 percent in its real GDP growth. Although Indonesia’s economy has exhibited a slowdown in growth rates from 2011 to 2013, the country remains one of the few countries in the world with sustained economic growth consistently. Overall, Indonesia’s economy has persisted in the vein of growth from 2011 to 2013, exhibiting resilience against lingering economic fears that continue to bog down major economies in the developed world. However, as an emerging country in Asia, Indonesia faced various external risks due to the unexpected tightening of global liquidity. This explains its slight economic slowdown in 2013, of a real GDP growth of 5.6 percent. In 2014, Indonesia’s economic growth was softened to 5.0 percent due to falling commodity prices, which hurt its export markets.

Nonetheless, all the economic sectors in Indonesia registered positive growth in 2014. The information and communication sector recorded a 10.0 percent growth, the highest growth percentage among the economic sectors. This was followed by the business services that registered a 9.8 percent growth. The transportation and warehousing sector as well as the health services and social activities sector shared the third place by recording 8.0 percent growth.

**Figure 6: Indonesia’s Inflation Rate, 2009-2014**

	2009	2010	2011	2012	2013	2014
Annual Change in Inflation Rate (%)	2.8	7.0	3.8	4.3	8.4	8.4

*Sources: IMR Report*

According to Figure 6, the inflation in Indonesia has spiked up from an average of 4.3 percent in 2012 to an average of 8.4 percent in 2013 due to increase in fuel prices as well as a weakened rupiah. In 2014, the inflation in Indonesia stood at 8.4 percent due to increase in foodstuff, transport, communication and financial services categories.

Moving forward, the Indonesian economy is envisaged to continue on its expansion trail in 2015 on the back of higher fiscal spending. As a net importer of oil, Indonesia is currently benefiting from lower oil prices. However, it also indicates lower oil revenues for the government should the low pricing trend prolong. Nonetheless, the Indonesian government projected a 5.7 percent growth in its economy in 2015.

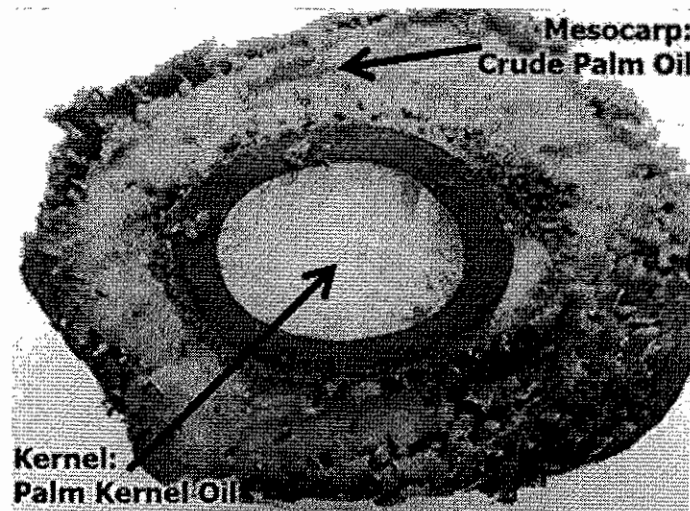
## 4 INTRODUCTION AND BACKGROUND

### Introduction to Palm Oil

Palm oil is one of the 17 major oils traded in the global edible oils and fats market. Due to its availability and relatively low production cost, it has become a vital component in the increasing intake of oils and fats in the world. Malaysia and Indonesia are the two largest producers of crude palm oil ("CPO") and CPO derivatives in the world.

The individual palm oil fruit is made up of exocarp (outer skin), mesocarp (pulp) containing the palm oil in a fibrous matrix, central nut consisting endocarp (shell) and the kernel. The oil palm has a unique characteristic compared to other oil-bearing crops because it can produce two types of oil from its fruit, which are palm oil from the mesocarp and palm kernel oil from the kernel. About 1 tonne of palm kernel oil is obtained for every 10 tonnes of palm oil.

**Figure 7: Anatomy of Oil Palm Fruit**



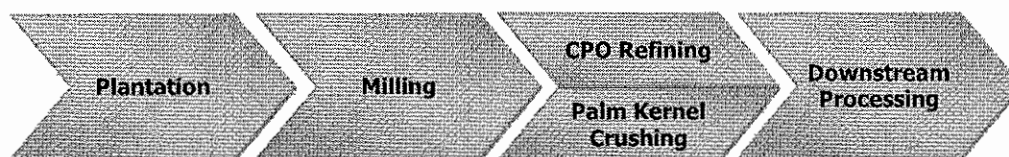
*Source: IMR Report*

### Introduction to the Palm Oil Industry

The palm oil industry features a diverse range of value generating activities ranging from plantation to various downstream refining and manufacturing activities. The versatility of CPO and its by-products across food, industrial and other applications contribute to the extent of value-creating activity surrounding the palm oil industry.

## 5. INDUSTRY OVERVIEW (Cont'd)

**Figure 8: Creating Value in the Palm Oil Industry**



Source: IMR Report

### ***Plantation***

The oil palm plant is grown in a nursery for 12 to 18 months before it is planted in the field. It bears fruit 30 months later and has an economic life of 20 to 30 years. A mature tree produces 10 to 15 bunches yearly. Each bunch weighs about 10 to 20 kilogrammes ("kg") and has between 1,000 and 3,000 fruitlets. Each 10g fruitlet has a kernel which is the source of palm kernel oil. When pressed, the fruitlets give palm oil with an oil extraction rate of about 20 percent. The yield of a normal plantation is approximately 4 tonnes of palm oil per hectare ("ha") per year.

### ***Milling***

At the mill, the fruits are sterilised, stripped off the bunches and crushed to extract the CPO. The CPO collected in a tank contains impurities such as fruit fibres, free moisture and nut shells, which are later removed through a purification process. In the meantime, the nut shells are further processed to separate the kernels from the shells. At the end of the milling process, CPO and palm kernels are produced. CPO is then sent to the refineries for further processing while the palm kernels are sent to the crushers for the palm kernel oil to be extracted.

### ***Refining***

CPO is processed by either physical or chemical refining to produce refined, bleached and deodorised ("RBD") palm oil or neutralised, bleached and deodorised ("NBD") palm oil. Physical refining is the preferred method used by the refineries as it is simpler, less capital intensive, more efficient and produces a lower effluent load compared to chemical refining.

### ***Crushing***

Palm kernels are processed in another plant known as crushers, to obtain crude palm kernel oil ("CPKO") and a by-product, palm kernel cake which is used as an animal feed. There are 3 different methods to obtain CPKO as shown in Figure 9. In method (A), cleaned palm kernels are sent directly for screw pressing without kernel pre-



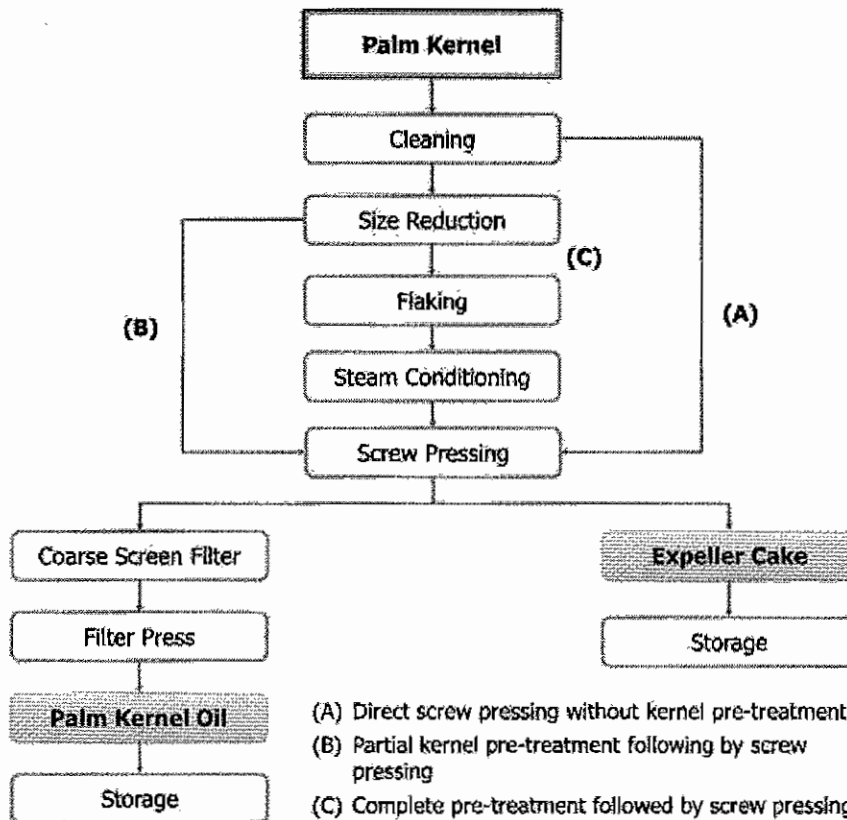
## 5. INDUSTRY OVERVIEW (Cont'd)

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treatment. In method (B), the kernels are partially pre-treated before screw pressing. Method (C) is the longest in terms of processing time as the palm kernels go through a complete pre-treatment of size reduction, flaking and steam conditioning before screw pressing.

**Figure 9: Palm Kernel Oil Processing Flow Chart (Mechanical Extraction)**



Source: IMR Report

### **Downstream Processing**

Downstream processing results in various palm oil derivatives that can be utilised for food and non-food applications. This is further elaborated in the next section.

### **Palm Oil Applications and Derivatives**

Palm oil is consumed worldwide in more than 100 countries. Most of the world's palm oil is consumed in the form of food such as cooking oil, cookies, margarine, and chocolate amongst others. In addition, palm oil is an ingredient found in a host of non-food household and industrial products such as soaps, detergents, cosmetics, and pharmaceuticals.

## 5. INDUSTRY OVERVIEW (Cont'd)

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### Food Applications

**Figure 10: Food Uses of Palm Oil and its Downstream Products**

Product	Palm Oil	Palm Olein	Double Fractionated Palm Oil (Super Olein) IV>60	Palm Mid Fraction (Soft)	Palm Mid Fraction (Hard)	Palm Stearin (Soft) IV>30	Palm Stearin (Hard) IV 20-30	Palm Stearin (Soft) IV<20
Cooking Oil	◊	•	•					
Frying Fats	•	•	•			•	•	•
Shortening / Dough Fats	•	•	•			•	•	•
Vegetable Ghee	•	•	•	◊	◊	•	•	•
Margarine	•	•	•	•	•	•	•	•
Specialty Fats for Coatings	◊			•	•		*	•
Ice Cream Fats	◊			•	•			
Chocolate Fats	◊			•	•	•	•	•
Milk Fat Replacers	•	•	•	•	•	•	•	•
Butter Oil Substitutes	•	•	•	•	•	•	•	•
Confectionery Fats	•	•	•	•	•	•	•	•
Non-dairy Creamer	•							

**Notes:**

• *Highly suitable*

◊ *Suitable*

\* *Minor applications only*

IV = *Iodine Value*

*Source: IMR Report*

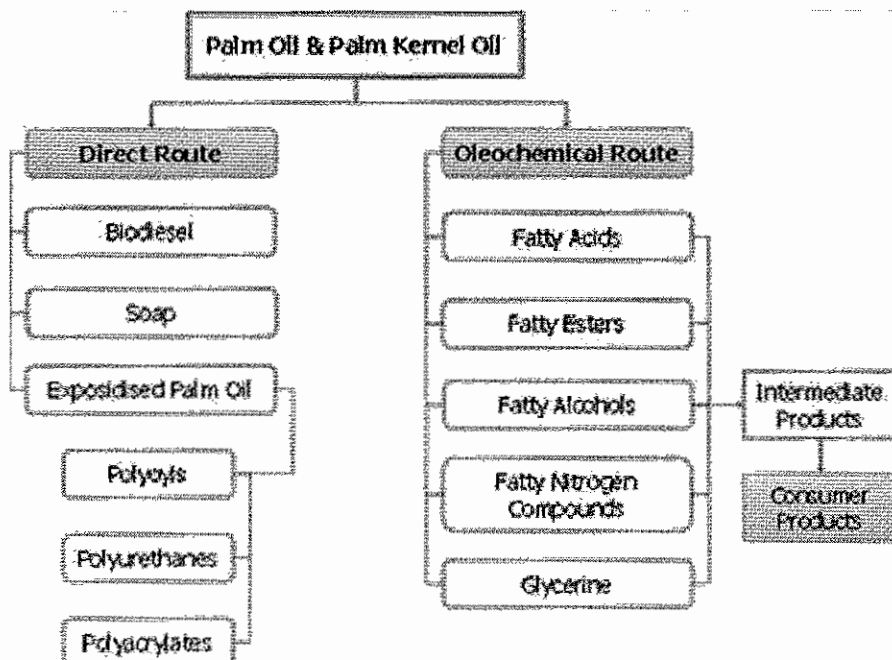
### Non-food Applications

About 20.0 percent of all oil palm products are utilised in non-food applications. Palm oil and palm kernel oil are processed for non-food applications through two routes –

5. INDUSTRY OVERVIEW (Cont'd)

direct route and oleochemical route. Direct usage of palm oil is found in the production of plastic, soap and biofuel.

**Figure 11: Non-Food Applications of Palm Oil and Palm Kernel Oil**



Source: IMR Report

**Figure 12: Basic Oleochemicals and their Applications**

Type	Application
Fatty acids	<ul style="list-style-type: none"> <li>- Medium chain triglycerides for use in the flavour and fragrance industries</li> <li>- Processing aids for rubber products, for softening and plasticising effect</li> <li>- Production of candles</li> <li>- Production of soaps</li> <li>- Production of cosmetic products</li> </ul>
Fatty methyl esters	<ul style="list-style-type: none"> <li>- Production of pure soap – better quality than soaps from fatty acids</li> <li>- Active ingredients for washing and cleaning products</li> <li>- As a substitute for diesel fuel for vehicles and engines</li> </ul>
Fatty alcohols	<ul style="list-style-type: none"> <li>- Production of cleaning and washing products</li> </ul>
Fatty nitrogen compounds	<ul style="list-style-type: none"> <li>- Good surface active properties for rust prevention</li> <li>- Softeners</li> </ul>
Glycerine	<ul style="list-style-type: none"> <li>- Wide range of applications such as a solvent for pharmaceutical products, humectants in cosmetics and tobacco, stabilisers, lubricants, antifreeze, etc</li> </ul>

Source: IMR Report

## 5. INDUSTRY OVERVIEW (Cont'd)



## 5 OVERVIEW OF THE GLOBAL PALM OIL INDUSTRY

Originating in West Africa, palm oil has since become a major oil commodity of the world. The vegetable oil is found in a plethora of food and non-food products while increasingly gaining attention as feedstock for the production of biodiesel, an alternative to petrol and diesel. The key reason for the dominance of palm oil is in fact its inherent productivity as compared to other form of oil seeds.

**Figure 13: World Major Vegetable Oils Production in Million Tonnes, 2010-2014**

Oil	2010	2011	2012	2013	2014
Coconut	3.7	3.4	3.7	3.5	3.4
Cottonseed	5.0	5.2	5.2	5.2	5.2
Olive	3.3	3.5	2.4	3.2	2.3
<b>Palm</b>	<b>48.8</b>	<b>52.0</b>	<b>56.0</b>	<b>59.6</b>	<b>62.8</b>
<b>Palm Kernel</b>	<b>5.7</b>	<b>6.1</b>	<b>6.5</b>	<b>7.0</b>	<b>7.3</b>
Peanut	5.3	5.3	5.5	5.6	5.6
Rapeseed	23.0	24.1	25.0	26.4	27.0
Soybean	41.4	42.8	43.1	44.9	47.1
Sunflower seed	12.4	14.7	13.2	15.8	15.3
Total	148.6	157.1	160.6	171.2	176.0

*Note: Totals may not add up due to rounding*

*Source: IMR Report*

**Figure 14: Typical Yield of Palm Oil against Other Vegetable Oils**

Plant Type	Yield (Tonnage per Hectare)
Oil Palm	4.1
Soybean	0.4
Rapeseed	0.8
Sunflower	0.6

*Source: IMR Report*

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**5. INDUSTRY OVERVIEW (Cont'd)**

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**Demand Outlook**

Palm oil has evolved from its original crude form (cooking oil) to an internationally traded commodity found in many food and non-food products. It is commonly consumed in poorer households because it is one of the cheapest amongst other vegetable oil substitutes. Another pertinent development for the demand for palm oil is also its increasing popularity as a feedstock for biofuel – an alternative to petrol and fuel. About 80.0 percent of palm oil is consumed in food form while the rest are used in industrial and consumer products such as cosmetics and biofuel. Indonesia takes the lead in terms of its level of domestic consumption with total domestic consumption of 10.5 million tonnes of palm oil consumed in 2014. As the largest producer and exporter of palm oil, Indonesia has the ability to support its sizable domestic demand. India comes in second with a total of 9.0 million tonnes of palm oil consumed in 2014. India, the second most populated country in the world, is notably blighted with poverty; this is a major factor to the vast consumption of cheaper palm oil as compared to other edible oils in the country. In addition, the palm oil is amply available through Malaysia and Indonesia. The European Union ("EU") and China follow next with consumption of 6.8 million tonnes and 6.2 million tonnes respectively. The EU uses palm oil as a source for biofuel; about 4.0 to 5.0 percent of biofuel in the EU is produced from palm oil. Meanwhile, China is world-renowned as a low-cost manufacturer; palm oil is often found in the production of food and non-food products.

India and the EU are the world's top importers of palm oil. In 2014, India and the EU imported 8.9 million tonnes and 7.0 million tonnes respectively; together, they accounted for over 36.7 percent of palm oil imports in world trade. China stands third in line with a total palm oil import of 6.3 million tonnes or 14.5 percent of the world's net import during the same year.

**Supply Outlook**

At present, oil palm is mainly cultivated in developing countries concentrated in the humid tropics which are ideally suited for oil palm cultivation. Malaysia and Indonesia are major producers and exporters of palm oil; together, they supply approximately 90.0 percent of the global demand for palm oil. In 2014, Malaysia and Indonesia produced 19.7 million tonnes and 31.0 million tonnes of CPO respectively. Other smaller palm oil producing countries include Thailand, Colombia, Nigeria and others.

The palm oil industry is an important economic driver to producing countries in South East Asia, Papua New Guinea, Central and Western Africa; it is also a major contributor to export

## 5. INDUSTRY OVERVIEW (Cont'd)



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earnings in Malaysia and Indonesia. The industry generates more jobs per ha than other large scale farming operations; it is estimated that 6 million people worldwide are employed by the palm oil industry.

### **Substitute Products**

Palm oil is seen largely as general purpose oil; hence it can be substituted with other oils, particularly soybean, rapeseed (also known as canola) and sunflower. Due to this reason, these four oils are mutual competitors, although palm oil is among the leaders.

In 2014, close to 176.0 million tonnes of vegetable oils were produced globally. Palm oil and palm kernel oil combined was the largest contributor to the world supply of vegetable oils with a total of 39.8 percent. Soybean oil, rapeseed oil, and sunflower oil accounted for 26.8 percent, 15.4 percent and 8.7 percent respectively. These 4 oils contributed 90.7 percent to the world production of vegetable oils.

### **Pricing Trends**

The palm oil industry is capital intensive and operating margins in this industry have been volatile. Margins are sensitive to supply and demand of the global market for edible oil and the demand for CPO and CPKO which are generally linked to the level of global consumption of edible oil. Therefore, as a commodity, palm oil is subject to price fluctuations based on supply, demand, weather conditions, availability and pricing of substitute products (e.g. other vegetable oils) and other factors.

**Figure 15: Annual Average Prices of Oil Palm Products, 2005-2014**

USD/ Tonne	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
CPO	422	478	780	949	683	901	1,125	1,000	857	821
CPKO	627	581	889	1,130	702	1,184	1,648	1,112	897	1,122

*Source: IMR Report*

In 2008, the global economic crisis imposed a negative impact on international trade and local economic growth. With the global economy reeling from the fallout, demand for palm oil was still sluggish; the global palm oil industry saw its CPO price fell by 28.0 percent to USD683/ tonne and CPKO decreased by 37.9 percent to USD702/ tonne in 2009. In 2010, the average CPO prices began to improve in tandem with the global recovery. Revived demand for palm oil and lower than expected palm oil production resulted in inflationary pressure that

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**5. INDUSTRY OVERVIEW (Cont'd)**


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caused a spike in palm oil prices. This upward trending of palm oil prices persisted through 2011; the average price for CPO and CPKO stood at USD1,125/ tonne and USD1,648/ tonne respectively during the year. However, palm oil prices contracted considerably in 2012 as palm oil stocks build-up; the average price for CPO and CPKO correspondingly decreased by 11.1 percent to USD1000/ tonne and 32.5 percent to USD1,112/ tonne.

In 2013, palm oil prices continued to experience downward trend; the average price for CPO decreased by 14.3 percent to USD857/ tonnes while the average price for CPKO declined by 19.3 percent to USD897/ tonnes. Palm oil prices were fluctuating erratically throughout the year, attributed to the concern over the high stock levels of palm oil especially in the first quarter and the lower export figures reported by Malaysia in the second quarter of 2013. Nonetheless, demand by major consumers including China, Pakistan and Iran had seen steady increases, keeping price fluctuation to a small range.

Average price for CPO fell by 4.2 percent to USD821/ tonne in 2014 while average price for CPKO increased by 20 percent to USD1,122/ tonne in tandem with the firmer world lauric oil prices. During the year, the CPO price was pressured by a stronger global edible oil supplies including the high soybean production in US, as well as a weaker biodiesel usage in Indonesia.

On the other hand, the recent falling crude oil prices may have impact on the demand for biofuel which is used as an alternative to petrol and fuel. Crude oil prices have seen a sharp decrease since the second half of 2014. As crude oil prices become more affordable, demand for energy products will likely be even more focused on crude oil, and will increasingly move away from alternative energy sources such as biofuel. As the decline in oil prices prolongs, demand for biofuels may be negatively influenced and this will weigh on the demand and prices of palm oil. However, the impact of decreasing crude oil prices on palm oil is anticipated to be minimal given that only 16.0 percent of global CPO production is for biofuel in 2014, according to the Malaysian Biodiesel Association.

Moving forward, palm oil prices are expected to gain growth momentum in 2015 driven by few factors such as a reduced soybean stocks and a higher demand for biofuel subsequent to the introduction of biodiesel B7 in Malaysia at the end of 2014. In addition, the Indonesian government plans to increase its biofuel subsidies from IDR1,500 per litre to IDR4,000 per litre as a move to lift CPO prices.

5. INDUSTRY OVERVIEW (Cont'd)



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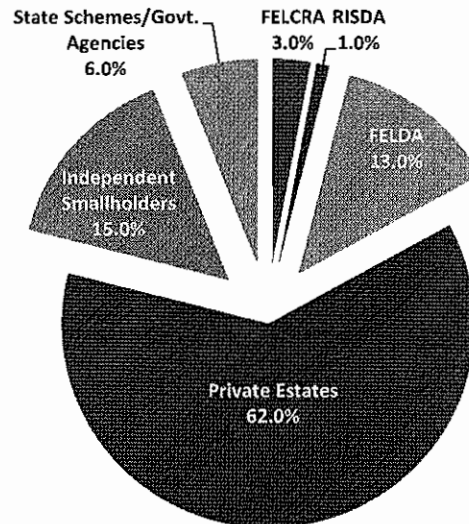
## 6 OVERVIEW OF THE MALAYSIAN PALM OIL INDUSTRY

Malaysia’s thriving palm oil industry features a diverse range of value-generating activities ranging from plantation to various downstream refining and manufacturing activities.

### Plantation

In 2014, the total oil palm planted area stood at 5.39 million ha, an increase of 3.1 percent of the 5.23 million ha from the previous year. This was mainly due to an increase of 5.0 percent of planted area in Sabah and Sarawak from 2.64 million ha in 2013 to 2.78 million ha in 2014. As at December 2014, 87.0 percent of the oil palm planted area in Malaysia is mature, while the remaining is immature. Slightly more than half (51.5 percent) of the plantation area is concentrated in East Malaysia with the rest in the Peninsular.

**Figure 16; Distribution of Malaysian Oil Palm Ownership, 2014**



Source: IMR Report

### Milling

In 2014, there are 439 mills in Malaysia with a total capacity of 105.8 million tonnes of fresh fruit bunches (“FFB”) per year. Of this total, 244 mills are located in Peninsular Malaysia, 127 in Sabah and 68 in Sarawak.



## 5. INDUSTRY OVERVIEW (Cont'd)

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**Figure 17: Number and Capacities of Palm Oil Mills in Malaysia, 2014**

Area	Number of Mills	Capacity in Operation (Tonnes per Year)
Peninsular Malaysia	244	56,518,200
Sabah	127	33,043,200
Sarawak	68	16,197,000
Malaysia	439	105,758,400

Source: IMR Report

### Refining

In 2014, there were 54 refineries in operation with total processing capacity of 26.1 million tonnes of CPO per year. Peninsular Malaysia has 36 refineries while Sabah and Sarawak has 12 and 6 refineries respectively. A majority of the operating refineries are associated with the oil palm plantation and milling sectors, or both. Some of the refineries are also manufacturers of specialty products and oleochemicals or have joint ventures with such manufacturers.

**Figure 18: Number and Capacities of Palm Oil Refineries in Malaysia, 2014**

Area	Number of Refineries	Capacity in Operation (Tonnes per Year)
Peninsular Malaysia	36	15,241,200
Sabah	12	7,974,800
Sarawak	6	2,930,000
Malaysia	54	26,146,000

Source: IMR Report

### Crushing

In 2014, there were 44 crushers in Malaysia (27 in Peninsular Malaysia, 13 in Sabah and 4 in Sarawak) with a total capacity of 6.9 million tonnes of palm kernel a year.

## 5. INDUSTRY OVERVIEW (Cont'd)

**Market Dynamics Scorecard****Figure 19: Market Dynamics Scorecard for the Palm Oil Industry in Malaysia**

Market Dynamics Indicators	Measurement	Trends
2014 Market Size (RM billion)	55.26	-
2019 Forecast Market Size (RM billion)	71.17	-
Forecast Period Market Compound Annual Growth Rate ("CAGR") (2014-2019) (%)	5.2	-
Pricing Trends	Expect to Gain Growth Momentum in Short Term	Volatile
Types of Market Players	Dominated by First-Tier Palm Oil Market Players	-
2015 Demand Conditions	Driving the Market	Increasing
2015 Supply Conditions	Driving the Market	Increasing

Source: IMR Report

**Historical Market Performance and Growth Forecast**

The year 2013 recorded a mixed performance for the palm oil industry in Malaysia. CPO production and export demand saw improved performance against the prior year, while imports were relatively sluggish throughout the year. The average price of CPO continued trending downward to RM2,371/ tonne in 2013 against RM2,764/ tonne in 2012 mainly attributed to concerns over high stock levels of palm oil particularly during first quarter of 2013 and also, the lower reported export figures during second quarter of 2013. Nonetheless, the price of CPO improved towards end of the year to close at RM2,575/tonne on the back of lower palm oil stock levels.

This lower average price was the main attributor to the sluggish performance of Malaysian palm oil industry for the year. In 2013, the industry was valued at RM52.11 billion, decreased by 10.1 percent from the previous year. Nonetheless, the oil palm planted area recorded an increase of 3.0 percent to reach 5.2 million hectares in 2013, largely attributed to the robust growth in Sarawak's plantations. In addition, CPO production increased by 2.3 percent to reach 19.2 million tonnes in 2013 against 18.8 million tonnes in 2012, driven by the higher FFB yield of 0.7 percent from 18.89 tonnes per ha in 2012 to 19.02 tonnes per ha in 2013, and additional new matured areas coming into production particularly in Sarawak. Additionally, the industry recorded 4.5 percent growth in palm oil product exports to 25.7 million tonnes in 2013 from the 24.6 million tonnes recorded in 2012.

## 5. INDUSTRY OVERVIEW (Cont'd)



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Moving into 2014, CPO production and prices saw improved performance against the prior year, while export and import volumes declined during the year. The CPO was traded at a higher price during the first half of 2014 at an average of RM2,605/ tonne. Moving into the second half of 2014, CPO prices trended downwards and closed at an average of RM2,183/ tonne. This was attributed to a weaker price of soybean oil (which can be used as a substitute of palm oil) and slumping crude oil prices, which affected the demand for biofuel.

In 2014, the Malaysian palm oil industry was valued at RM55.26 billion, increased by 6.0 percent from the previous year. The growth was attributed to a 2.3 percent growth in CPO production from 19.2 million tonne in 2013 to 19.7 million tonne in 2014. The growth in CPO production was driven by a higher oil extraction rate from 20.3 percent in 2013 to 20.6 percent in 2014, coupled with an expansion in planted area from 5.23 million ha to 5.39 million ha during the same period.

However, total export volume of all palm oil products decreased by 2.7 percent to 25.0 million tonnes in 2014 from 25.7 million tonnes in 2013, mainly attributed to the lower export volume of palm oil which fell 4.8 percent from 18.1 million tonnes in 2013 to 17.3 million tonnes in 2014. On top of that, total import of palm oil decreased by 12.6 percent from 555,776 tonnes in 2013 to 485,567 tonnes in 2014.

### Upstream

In 2013, CPO production registered an increase of 2.1 percent to 19.2 million tonnes against 18.8 million tonnes in 2012, and it is attributable to the higher FFB yield by 0.7 percent as well as additional new matured areas coming into production particularly in Sarawak. By states, CPO production in Peninsular increased by 0.1 percent to 10.3 million tonnes, while CPO production in Sabah recorded an increase of 4.2 percent to 5.8 million tonnes and CPO production in Sarawak registered an increase of 6.5 percent to 3.1 million tonnes.

Exports of palm oil also increased by 2.8 percent to 18.1 million tonnes in 2013 compared to 17.6 million tonnes in 2012. China continued to be Malaysia's largest palm oil export market for the twelfth consecutive year, importing 3.7 million tonnes or 20.4 percent of total palm oil exports. This is followed by the EU with 2.3 million tonnes (12.7 percent), India 2.3 million tonnes (12.7 percent), Pakistan 1.4 million tonnes (7.7 percent), USA 1.0 million tonnes (5.5 percent), Iran 0.6 million tonnes (3.3 percent) and Japan 0.5 million tonnes (2.8 percent). These 7 markets combined accounted for around 11.8 million tonnes or about 65.2 percent of Malaysian total palm oil exports in 2013.

## 5. INDUSTRY OVERVIEW (Cont'd)



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The increase in Malaysian palm oil export in 2013 was mainly due to higher demand from China, Bangladesh, the EU, Iran and Pakistan in addition to the impact of new CPO export duty structure which lowered the export tax rate from around 23 percent to between 4.5 to 8.5 percent (depending on reference CPO prices gazetted by the Ministry of Finance on the 15<sup>th</sup> of every month) starting January 2013. China's lower import of soybean oil resulted in the 5.6 percent increase of palm oil import from Malaysia. Meanwhile, Malaysian export of palm oil to Benin recorded an increase of 68.7 percent, largely driven by the re-exports of palm oil to its neighbouring countries which are Togo and Nigeria. Also, Bangladesh increased palm oil imports from Malaysia by 61.6 percent due to palm oil's price competitiveness as against other vegetable oils such as soybean oil and rapeseed oil. Soybean oil and rapeseed oil were traded at an average of USD1,057 per tonne and USD1,082 per tonne respectively, while CPO was traded at an average of USD857 per tonne in 2013.

During the same year, Malaysian export of palm oil to the EU registered an increase of 5.2 percent, attributed to the increase in consumption not only for biodiesel but also for the generation of electricity and heat. The stronger export to the EU was further driven by the palm oil's price competitiveness as against other vegetable oils. In Pakistan, the lower import of sunflower seed and rapeseed for domestic crushing activity increased the imports of palm oil from Malaysia by 6.8 percent. Meanwhile, Malaysian export of palm oil to Iran increased by 15.8 percent, driven by the reduced imports of oilseeds and oilseed products as a result of the financial sanctions imposed on the country, and hence the shift in demand for palm oil from Malaysia and Indonesia.

Despite the increase in off-takes registered in most major markets, Malaysian export of palm oil to India, Philippines, and United Arab Emirates ("UAE") recorded sluggish performance. In India, Malaysian export of palm oil declined by 11.9 percent to 2.3 million tonnes attributed to the higher intake of Indonesian palm oil by the country. Meanwhile, Malaysian export of palm oil to Philippines was also down by 27.5 percent to 0.2 million tonnes due to sufficient availability of coconut oil for domestic consumption driven by unattractive prices for export of such commodity. Further, Malaysian export of palm oil to UAE declined by 25.6 percent to 0.1 million tonnes, and it was attributable to the decline in re-export activity to Iran as Iran imported palm oil directly from Malaysia.

Moving into 2014, CPO production registered an increase of 2.3 percent to 19.7 million tonnes against 19.2 million tonnes in 2013, and it is attributable to a higher oil extraction rate from 20.3 percent in 2013 to 20.6 percent in 2014, coupled with an expansion in planted area

## 5. INDUSTRY OVERVIEW (Cont'd)



from 5.23 million ha to 5.39 million ha during the same period. By states, CPO production in Peninsular Malaysia decreased by 1.5 percent to 10.2 million tonnes, while CPO production in Sabah recorded an increase of 4.8 percent to 6.1 million tonnes and CPO production in Sarawak registered an increase of 10.5 percent to 3.4 million tonnes.

Exports of palm oil decreased by 4.8 percent to 17.3 million tonnes in 2014 compared to 18.1 million tonnes in 2013. The decrease in Malaysian palm oil export in 2014 was mainly due to lower demand from China, Pakistan, USA, Ukraine and Iran in addition to the impact of new CPO export duty structure.

India overtook China's position as Malaysia's largest palm oil export market for 2014, importing 3.2 million tonnes or 18.5 percent of total palm oil exports. This was followed by China with 2.8 million tonnes (16.4 percent), the EU with 2.4 million tonnes (14.0 percent), Pakistan with 0.8 million tonnes (4.7 percent), USA 0.8 million tonnes (4.5 percent), Vietnam 0.6 million tonnes (3.5 percent) and Japan 0.5 million tonnes (3.0 percent). These 7 markets combined accounted for around 11.19 million tonnes or about 64.8 percent of Malaysian total palm oil exports in 2014.

### **Downstream**

The palm oil industry is still very much driven by its upstream business which accounted for 79.3 percent and 70.0 percent of export value in 2013 and 2014 respectively. In addition, while Malaysia produces about 20.0 percent of world's basic oleochemicals (intermediate products), further downstream activities involving the manufacture of high-value end products remain limited and insignificant in the country.

There is a potential for growth in the market through the widening demand base for palm oil in non-food sectors; non-food uses currently account for around 20.0 percent of palm oil production. The use of palm oil for biodiesel production is also growing to cater to increasing demand in the international market. Another area with growth potential is the production of phytonutrients, particularly Vitamin E (tocotrienols) and pro-vitamin A (carotenoids), both of which are palm oil-based.

In 2013, exports of oleochemical products increased by 4.8 percent to 2.7 million tonnes. The major export destinations for locally produced oleochemicals were the EU with 0.6 million tonnes (22.2 percent of total oleochemical exports), China 0.5 million tonnes (18.5 percent), USA 0.3 million tonnes (11.1 percent), Japan 0.2 million tonnes (7.4 percent) and India 0.2 million tonnes (7.4 percent). The major oleochemical products exported were fatty acids

## 5. INDUSTRY OVERVIEW (Cont'd)



(33.2 percent of total oleochemical exports), followed by fatty alcohol (19.2 percent), methyl ester (18.9 percent), soap noodles (15.0 percent) and glycerine (12.6 percent). Meanwhile, exports of palm oil biodiesel increased by around 500 percent to about 180,000 tonnes in 2013 from around 30,000 tonnes in 2012, despite the slowdown in biodiesel demand toward year-end due to the winter season.

In 2014, exports of oleochemical products increased by 3.7 percent to 2.8 million tonnes. The major export destinations for locally produced oleochemicals were the EU with 0.6 million tonnes (22.6 percent of total oleochemical exports), China 0.4 million tonnes (15.2 percent), USA 0.3 million tonnes (9.2 percent), Japan 0.2 million tonnes (7.8 percent). The major oleochemical products exported were fatty acids (32.2 percent of total oleochemical exports), followed by methyl ester (20.1 percent), fatty alcohol (18.7 percent), soap noodles (15.2 percent) and glycerine (12.4 percent). Meanwhile, exports of palm oil biodiesel decreased by 61.5 percent from 175,032 tonnes in 2013 to 67,354 tonnes in 2014 due to a slumping crude oil prices which caused a slowdown in biodiesel demand as its substitute.

#### Future Market Revenue and Growth

**Figure 20: Market Size and Growth Forecast for the Palm Oil Industry in Malaysia, 2010-2019**

Year	Market Size (RM billion)	Growth Rate (%)
2010	53.24	-
2011	69.90	31.3
2012	57.94	-17.1
2013	52.11	-10.1
2014	55.26	6.0
2015	61.25	10.8
2016	56.00	-8.6
2017	60.18	7.5
2018	67.18	11.6
2019	71.17	5.9

CAGR (2014 – 2019): 5.2 percent

Notes:

1. All figures are rounded; the base year is 2014;
2. Market size and its corresponding growth rate from 2015 to 2019 are forecast;
3. Palm oil industry is a commodity-based industry based primarily on CPO, with its market value depends largely on the movement of macro variables such as commodity prices, as against the industry specific characteristics.

Source: IMR Report

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**5. INDUSTRY OVERVIEW (Cont'd)**

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The palm oil industry in Malaysia is forecast to undergo cyclical movements from 2015 to 2019. This cyclical movement is mainly affected by the production and prices of palm oil moving forward.

CPO prices are forecasted to strengthen in the near term with a 11.0 percent decline in closing stock from 1.1 million tonne in 2013 to 995,529 tonnes in 2014. The decline in closing stock indicates a lower CPO supply in the near term and thus, this is anticipated to push up the CPO prices in 2015. Demand for palm oil in Malaysia is also projected to expand in relation with the introduction of biodiesel B7 in Peninsular Malaysia in November, and in East Malaysia in December 2014. Biodiesel B7 involves the blending of 7.0 percent of palm biodiesel with 93 percent of petroleum diesel. Therefore, Protégé Associates estimates that the palm oil industry in Malaysia is likely to expand by 10.8 percent in 2015 to reach RM61.25 billion.

As the prices recover, production of palm oil is anticipated to increase accordingly, hence increasing the palm oil stock. As the supply of palm oil stock increase, prices of palm oil are forecasted to fall due to overstocking. Therefore, Protégé Associates has projected a negative growth in 2016 due to a lower projected palm oil product prices. In 2017 and 2018, the palm oil industry in Malaysia is forecasted to register healthier growth as the prices of palm oil products recover. Growth is forecasted to moderate to 5.9 percent in 2019.

The general trend from 2015 to 2019 is likely to show an upward movement over the period due to increasing global population and rising incomes, which will increase the demand of palm oil. The growth of the market is also impacted in a positive way by the growing environmental concerns over climate change, resulting in more vegetable oils such as palm oil being used as fuel to replace fossil fuel. In addition, the palm oil industry has the full support of the Malaysian government, which has called out palm oil as one of the main sectors to help Malaysia achieve developed nation status by the year 2020.

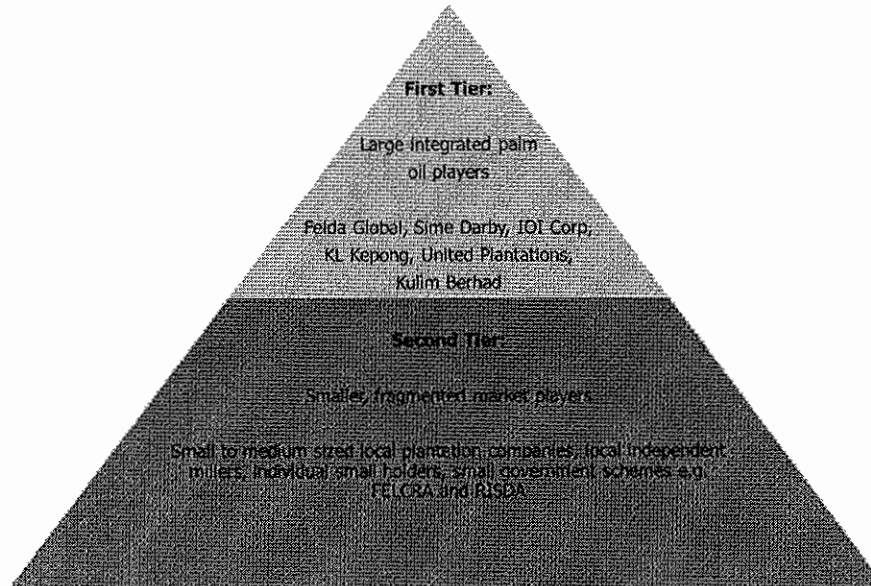
## 5. INDUSTRY OVERVIEW (Cont'd)

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### Competitive Analysis

**Figure 21: Tiers of Market Players in the Palm Oil Industry in Malaysia**



*Source: IMR Report*

#### **First Tier**

The first tier comprises mostly large private sector companies that participate at multiple points across the value chain in the palm oil industry from having plantations to manufacturing facilities in the oleochemical and biofuels industries. Many of the first tier companies also have plantation estates in Indonesia as well as refineries and downstream manufacturing facilities overseas such as in China and Europe.

#### **Second Tier**

The second tier has a high level of fragmentation with a variety of market players that typically only participate in one or two value segments. These market players include small to medium sized local plantation companies, independent palm oil millers, individual small holders and small government schemes.



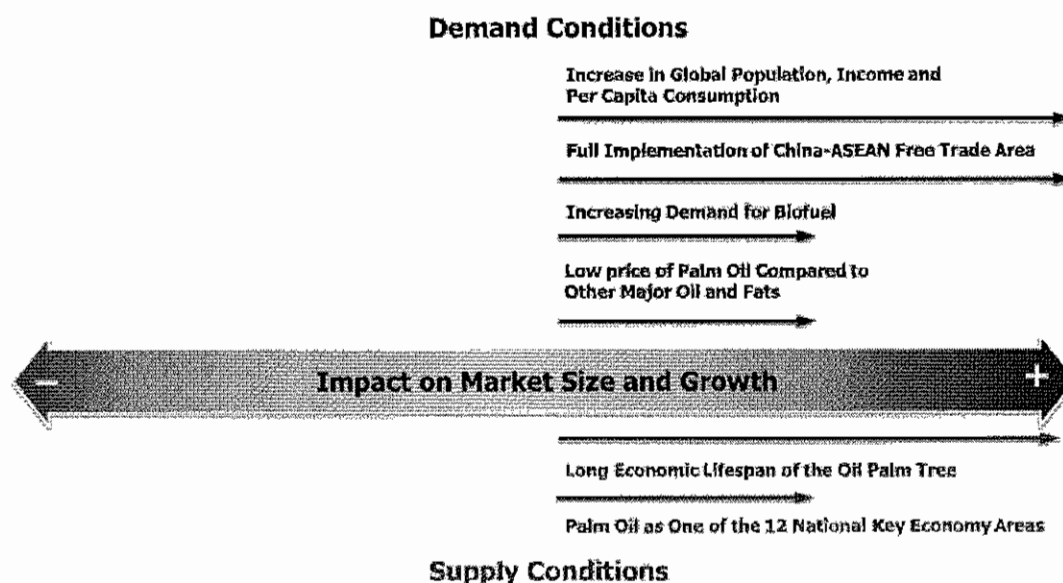
## 5. INDUSTRY OVERVIEW (Cont'd)

**Key Market Player Comparison****Figure 22: Comparison of Market Players' Business Portfolios**

Company	Upstream Value Segments		
	Plantation	Milling	Refining
Felda Global	✓	✓	✓
Sime Darby	✓	✓	✓
IOI	✓	✓	✓
KL Kepong	✓	✓	✓
United Plantations	✓	✓	✓
Wilmar	✓	✓	✓
Kim Loong	✓	✓	
FELCRA	✓	✓	
Genting Plantations	✓	✓	
IJM Plantations	✓	✓	
Hap Seng Plantations	✓	✓	
THP	✓	✓	
UMB	✓	✓	
BerjayaCity	✓		
Lee Oilmills			✓

Source: IMR Report

## 5. INDUSTRY OVERVIEW (Cont'd)

**Demand and Supply Conditions****Figure 23: Demand and Supply Conditions Affecting the Palm Oil Industry in Malaysia, 2015***Source: IMR Report***Demand Conditions**

The following factors represent key trends, developments and events influencing market demand:-

## 1) Increase in Global Population, Income and Per Capita Consumption

Palm oil will see a growth in demand over the long term considering the increase in population, income as well as per capita consumption especially in countries with currently lower income and lower levels of consumption such as Bangladesh, India and Nigeria. The United Nations Food and Agricultural Organisation ("FAO") projected that the world population will grow to 9.55 billion by 2050 (from 7.24 billion as at 2014) with the majority of growth occurring in Asia. In the developing countries, it is estimated that oils and fats consumption per year will increase from 10 to 15 kg per capita to 25 kg per capita within 20 years. Another important factor is income. A strong economic growth will lead to a rise in income through such factors as greater economic activities and better employment opportunities taking place and ultimately drive higher consumption and demand. China and India are taking the lead in terms of economic growth. Both countries are already the world's largest four consumers of vegetable oils together with the EU and USA.

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**5. INDUSTRY OVERVIEW (Cont'd)**

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**2) Full Implementation of China-ASEAN Free Trade Area ("FTA")**

The full implementation of the China-ASEAN FTA on 1st January 2010 increased the export volume of Malaysia's palm oil to China. Palm oil was categorised as a sensitive product and its tariff was reduced to 9.0 percent from the previous 30.0 percent. Tariff for items categorised in the sensitive list will be reduced to 5.0 percent or below by 2018 in the China-ASEAN FTA. The lower tariff means that Malaysian palm oil could be imported by China at a lower price, thereby increasing the competitiveness of the commodity in the huge market there. The increased competitiveness of palm oil arising from the implementation of the said FTA can be evinced in the increase in export of palm oil to China by 14.3 percent in 2011 from 3.5 million tonnes to around 4.0 million tonnes. In 2014, China was the second largest export destination of palm oil after India by constituting 16.4 percent or 2.8 million tonnes of the total export volume in the year.

**3) Increasing Demand for Biofuel**

The growing concern on climate change and the over reliance on crude mineral oil as a source of fuel has created a growing demand for all vegetable oils including palm oil to be used as fuel. The EU, being a major user of biofuels, targets for the use of biofuel to reach 5.0 percent of total transport fuel demand by 2020, according to European Commission. Although the global decline of crude oil prices in the second half of 2014 has somewhat affected the demand for palm oil as a biofuel, the impact is expected to smoothen out over the long term.

In Malaysia, the government is promoting the use of biodiesel to reduce reliance on petroleum. The government has introduced the use of B5 biodiesel in 2011 in the Central region comprising Putrajaya, Melaka, Negeri Sembilan, Kuala Lumpur and Selangor. B5 biodiesel is a type of biofuel blended with 5.0 percent of palm oil biodiesel and 95.0 percent of petroleum diesel. B5 biodiesel is typically suitable to be used in diesel engines. The B5 programme was expanded to the Southern region encompassing Pahang, Terengganu and Kelantan in 2012.

In December 2014, the Malaysian government introduced the replacement of B5 biodiesel with B7 biodiesel, which involves the blending of 7.0 percent of palm oil with 93.0 percent of petroleum diesel in Peninsular Malaysia. The biodiesel B7 programme was later implemented in East Malaysia in January 2015.

**5. INDUSTRY OVERVIEW (Cont'd)**

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In addition, palm oil is also being used in Europe and the USA as a substitute for rapeseed and other edible oils, which are increasingly being used for fuel purposes. Thus, demand for palm oil will be on an upward trend in both direct and indirect ways as a result of an increasing demand for biofuels.

#### 4) Low Price of Palm Oil Compared to Other major Oil and Fats

The price of palm oil is still the lowest in comparison with other vegetable oils such as soybean oil, sunflower oil and rapeseed oil. The relatively low price of palm oil is expected to drive demand for this commodity over the long term.

**Figure 24: Annual Average Prices of Selected Oils and Fats, 2005 – 2014 (USD/tonne)**

Year	CPO	Soybean Oil	Sunflower Oil	Rapeseed Oil
2005	422	545	677	669
2006	478	599	658	794
2007	780	881	1,022	969
2008	949	1,258	1,499	1,329
2009	683	849	855	858
2010	901	989	1,074	1,013
2011	1,125	1,299	1,360	1,368
2012	1,000	1,227	1,263	1,241
2013	857	1,057	1,124	1,082
2014	821	909	902	907

Source: IMR Report

#### Supply Conditions

The following factors represent key trends, developments and events influencing market supply:-

##### 1) Long Economic Lifespan of the Oil Palm Tree

The long natural economic lifespan of the oil palm tree and the ability to harvest the fruit all year round ensures a consistent supply of palm oil to meet consumer demand. On average, one ha of oil palm produces 3.74 tonnes of palm oil per year, with the best fields producing up to 7 to 8 tonnes annually.

## 5. INDUSTRY OVERVIEW (Cont'd)



### 2) Palm Oil as One of the 12 National Key Economy Areas ("NKEA")

The palm oil industry is currently the fourth largest contributor to the national economy and accounts for RM53 billion in Gross National Income ("GNI"). Under the government's Economic Transformation Programme ("ETP"), palm oil is one of the 12 NKEAs and projected to generate an additional RM125 billion to GNI to reach RM178 billion by 2020. The ETP has identified eight entry point projects ("EPPs") and several business opportunities worth a total of RM74.60 billion to achieve this target. Among the eight EPPs that have been identified to achieve this target, the improving of FFB yield and improving of oil extraction rate EPPs will increase the supply of palm oil in the long term. This market driver is expected to have a medium impact on the supply of palm oil in Malaysia in the next three to five years.

#### **Market Challenges**

The following factors represent issues that can affect the development of the market or the competitors within the market itself:-

#### 1) Shortage of Labour

The lack of participation among Malaysians in the plantation sector had caused an acute labour shortage resulting in a heavy dependence on foreign workers. Shortage of labour (fruit harvesters) in the oil palm estates has caused losses in palm oil crops as uncollected FFB are left rotting in the fields. According to Performance Management and Delivery Unit ("PEMANDU") in the ETP, foreign workers in Malaysian oil palm plantations are estimated to comprise 80.0 percent of total industry workforce.

#### 2) Pressure from Anti-Palm Oil Lobbyists and Environmental NGOs from the West

Scare-mongering and smear campaigns against palm oil have been rife. Many parties including the EU have alleged that palm oil production in Malaysia is environmentally unsustainable as the expansion of oil palm plantation brings about widespread deforestation and resulted in the destruction of orang utans and loss of biodiversity. The EU also pointed that the palm oil in Malaysia does not meet its environmental sustainability standard of 35.0 percent greenhouse gas emissions savings, and as such, are not entitled to incentives thereby reducing its competitiveness.

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**5. INDUSTRY OVERVIEW (Cont'd)**

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**Outlook of the Palm Oil Industry in Malaysia**

Malaysia's palm oil industry faces a bright outlook throughout the forecast period. Growth in the said industry is likely to be mainly driven by increasing global population, income and per capita consumption. China, the most populous country, continues to be one of the Malaysia's largest export markets in 2014 and is likely to remain throughout the forecast period. The implementation of China-ASEAN Free Trade Area is envisaged to boost palm oil exports to China through the gradual reduction of tariff rates. Other factors driving market growth moving forward is the increasing use of palm oil in biofuels and the lower price of palm oil as compared to other major vegetable oils which is a crucial and deciding factor to its high consumption.

Supporting the demand for Malaysia's palm oil are growing trends on the supply side which increased long economic lifespan of the oil palm trees ensuring consistent supply of palm oil and governmental support from the Malaysian government. The palm oil industry has been identified as one of the 12 NKEAs. To enhance the development of the palm oil industry, various initiatives under the ETP are means to boost the industry's activities. The ETP has identified eight EPPs and several business opportunities worth a total of RM74.6 billion to achieve this target. Among the eight EPPs that have been identified to achieve this target, the improving of FFB yield and improving of oil extraction rate EPPs will increase the supply of palm oil in the long term.

Despite the industry's obvious potential growth, there are several challenges faced by the industry which includes the shortage of labour and pressure from anti-palm oil lobbyists and environmental NGOs from the west. However, these challenges are being met by allowing the renewal of permits for another five years for foreign workers who have been employed in the oil palm plantation sector for five years, improved agricultural practices, planters' effort to attract workers and efforts to ensure that palm oil production are environmentally sustainable.

The industry is valued at RM55.26 billion in 2014 and is expected to grow at a CAGR of 5.2 percent during the forecast period to RM71.17 billion in 2019.

## 7 OVERVIEW OF THE INDONESIAN PALM OIL INDUSTRY

Since its introduction during the Dutch colonial era, Indonesia's palm oil industry has grown immensely to become the world's largest producer and exporter of palm oil. Nationally, Indonesia's palm oil is considered the second most profitable agricultural product, after rice paddy, and the largest agricultural export. It is the main contributor of income and economic development to the country's rural and poor – it provides employment for over 41.0 percent of the Indonesian population and about two-thirds of rural household income.

In 2014, Indonesian palm oil production was estimated at 31.0 million tonnes, a 14.8 percent increase from 27.0 million tonnes in 2013. The country is also one of the world's largest suppliers of palm oil with 20.0 million tonnes of palm oil exported during the same year.

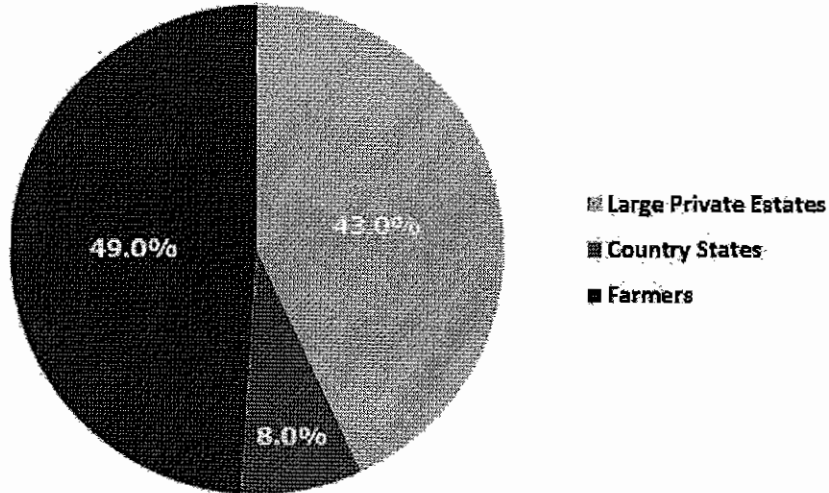
### **Plantation**

Indonesia's oil palm plantation and milling are the core activities of the country's palm oil industry. The industry has always been more focused on the upstream business; today, it is the largest producer and exporter of CPO in the world and still growing. Indonesia's fertile land and tropical climate is favourable to the cultivation of oil palm. In 2013, Indonesian Palm Oil Association ("GAPKI") estimated that Indonesia's oil palm planted area stood 9.2 million ha of which 49.0 percent are owned by large private estates, 43.0 percent by smallholders (farmers) and the remaining 8.0 percent by the country state. Figure 25 depicts the oil palm distribution of ownership in Indonesia.

5. INDUSTRY OVERVIEW (Cont'd)



**Figure 25: Distribution of the Indonesian Oil Palm Ownership, 2013**



Source: IMR Report

**Milling**

In 2009, Indonesia had about 608 palm oil mills with a capacity of processing 300.3 million tonne FFB/ year. The palm oil mills are spread across 22 different provinces.

**Refining**

Indonesia is more focused on plantation and milling while refining and other downstream operations are minor activities making up about 5.0 percent of the palm oil industry. The country has about 94 refineries spread across 19 provinces. North Sumatera has the most refineries among the other provinces with a total of 13.



## 5. INDUSTRY OVERVIEW (Cont'd)

**Market Dynamics Scorecard****Figure 26: Market Dynamics Scorecard for the Palm Oil Industry in Indonesia**

Market Dynamics Indicators	Measurement	Trends
2014 Market Size (IDR trillion)	258.17	-
2019 Forecast Market Size (IDR trillion)	404.05	-
Forecast Period Market CAGR (2014 – 2019) (%)	9.4	-
Pricing Trends	Expect to Gain Growth Momentum in Short Term	Volatile
Types of Market Players	Dominated by First-Tier Palm Oil Market Players	-
2015 Demand Conditions	Driving the Market	Increasing
2015 Supply Conditions	Driving the Market	Increasing

Source: IMR Report

**Historical Market Performance and Growth**

2010 was a challenging year for Indonesia's palm oil industry due to the uncertainties of the global economy, the anomalies of climate and escalating environmental change campaigns focused on halting or slowing the conversion of forest lands to oil palm plantations. Nevertheless, the industry still recorded growth in production for the year which continued throughout 2011 and 2012. In 2013, Indonesia's palm oil industry remained strong, with CPO production stood at 27.0 million tonnes, a marginal increase from the CPO production of 26.5 million tonnes in 2012. Moving into 2014, Indonesia's palm oil industry was strengthened by a 14.8 percent growth in CPO production to 31.0 million tonnes.

**Upstream**

In 2010, the Indonesia palm oil industry was affected by the La Nina phenomenon, a wet climate that potentially increases the moisture of palm fruit and lower extraction rates. Despite the weather being less than optimal, CPO production for the year still grew by 2.7 percent to 22.5 million tonnes; this can be attributed to the maturing of oil palm plantation resulting in greater harvesting area.

Positive developments were seen in Indonesia's palm oil industry in 2011 and 2012, with estimated CPO production of 23.6 million tonnes in 2011 and 26.5 million tonnes in 2012, driven by relatively normal climate during this period. However, growth of CPO production in

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**5. INDUSTRY OVERVIEW (Cont'd)**

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2013 was slightly lower by 1.9 percent to 27.0 million tonnes, as the year's farming activities had been hampered by problems such as weather-disrupted harvests. Nonetheless, the CPO production in Indonesia amounted to a total of 31.5 million tonnes in 2014. It represents a 14.8 percent year-on-year growth from 2013.

In 2014, total exports of palm oil fell by 5.7 percent from 21.2 million tonnes in 2013 and stood at 20.0 million tonnes attributed to lower demand from China and India.

**Downstream**

Indonesia's focus has mainly been on the upstream activities involving oil palm planting and CPO milling; downstream activities account for no more than 5.0 percent of the palm oil industry's annually generated value. As compared to Malaysia, the world's leader in oleochemical sector, Indonesia's oleochemical industry lags behind in size and production capacity. Malaysia produces approximately 120 varieties of derivatives while Indonesia produces less than 20. As a result, the Indonesian government is shifting its attention to the development of domestic downstream clusters primarily for oleochemical production – a strategic industry that could potentially provide more than 40 percent added value to CPO and CPKO.

The Indonesian government has issued a policy development of CPO processing industry through two schemes namely medium-term scheme (2010-2014) and long-term scheme (2015-2025). These two schemes target to provide support by means of industry clusters, raw materials, infrastructure and various projects that would boost the downstream activities. In its effort to promote the downstream, Indonesian government has lowered export duty for refined palm products from 25.0 percent to 10.0 percent in 2012, allowing its domestic refiners to enjoy higher profit margin and spurring growth in its downstream industry. As one of the world's largest producer of CPO, Indonesia has ready available feedstock at its disposal. In addition, the refinery capacity of Indonesia is estimated to jump to 45 million tonnes per year in 2014, from 30.7 million tonnes per year in 2013. Hence, there is great growth potential for the country's oleochemical industry.

## 5. INDUSTRY OVERVIEW (Cont'd)



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**Future Market Revenue and Growth****Figure 27: Market Size and Growth Forecast for the Palm Oil Industry in Indonesia, 2010 – 2019**

Year	Market Size (IDR trillion)	Growth Rate (%)
2010	199.59	-
2011	276.67	38.6
2012	267.52	-3.3
2013	249.37	-6.8
2014	258.17	3.5
2015	310.28	20.19
2016	278.67	-10.2
2017	323.01	15.91
2018	340.72	5.5
2019	404.05	18.6

CAGR (2014 – 2019): 9.4 percent

*Notes:*

1. All figures are rounded; the base year is 2014;
2. Market size and its corresponding growth rate from 2015 to 2019 are forecast;
3. Palm oil industry is a commodity-based industry based primarily on CPO, with its market value depends largely on the movement of macro variables such as commodity prices as against the industry specific characteristics.

*Source: IMR Report*

In 2014, Indonesia's palm oil industry recorded a 3.5 percent growth, attributed to an improved CPO production by 14.8 percent to 31.0 million tonnes in the year. However, CPO prices fell to USD821/ tonne from USD857/ tonne in 2013 due to soften demand from export markets.

Nevertheless, palm oil prices are anticipated to strengthen in 2015 with anticipation of lower supply and higher demand in the said year. GAPKI expects the palm oil industry to exhibit a soften production growth of 4.5 percent to between 32.5 to 33 million tonnes. In addition, the Indonesian government plans to increase its biofuel subsidies from IDR1,500 per litre to IDR4,000 per litre as a move to lift CPO prices. Approval of such measure is anticipated to result in higher demand for palm oil and thus, leading to healthier prices in 2015 and subsequently increases the market revenue.

The projected higher palm oil prices in 2015 are expected to spur the production of palm oil products. Similar to Malaysia, prices of palm oil are forecasted to fall as the supply increases.

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**5. INDUSTRY OVERVIEW (Cont'd)**

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Therefore, Protégé Associates has projected a negative growth in 2016 due to lower palm oil product prices. In 2017, the palm oil industry in Indonesia is forecasted to register healthier growth as prices of palm oil products is anticipated to increase. And in 2018 and 2019, growth within the Indonesian palm oil industry is anticipated to grow by 5.5 percent and 18.6 percent respectively as prices of palm oil products may fluctuate in tandem with the palm oil stocks level.

The palm oil industry in Indonesia is forecast to grow by a CAGR of 9.4 percent in the 2014 to 2019 periods underpinned by the increase in global population, which will increase the demand for palm oil and the increasing focus on palm oil as feedstock for biofuel. In addition, the comparatively low price of palm oil vis-à-vis other edible oils makes it a good substitute for other vegetable oils. Government initiatives continue to be an important catalyst for the Indonesian palm oil market moving forward; various trade agreements with key demand centres such as China and Pakistan have been initiated by the government while other measures to boost the local industry's value gives the industry formidable growth potential.

**Competitive Analysis**

In 1987, the Indonesian government introduced The Plasma Scheme, a cooperative programme aimed at enhancing the overall wealth of small farmers. The programme involved large plantation companies (nucleus) and individual farmers (plasma farmers). Principally, the nucleus entity will assist plasma farmers in developing and managing their plasma plantations until a predetermined physical condition at which the ownership of these plasma plantations would be transferred to the farmers.

**First Tier**

The first tier comprise mostly of large estate companies that presently dominate the industry. They take up approximately 5.5 million ha of planted area amongst 1,510 companies. Large estate companies participate at multiple points across the value chain in the palm oil industry from cultivating and harvesting to downstream manufacturing activities. These companies have planted areas of plantations of more than 50,000 ha each. Many of the first tier companies are 'nucleus' companies that participate in the Plasma Scheme; therefore, they also help to develop and manage plasma estates for smallholders. In 2014, there were a total of 1,605 of large estate companies in Indonesia.

## 5. INDUSTRY OVERVIEW (Cont'd)

**Second Tier**

The second tier of the palm oil industry is highly fragmented. Market players in the second tier are generally individual smallholders (plasma farmers) that typically only participate in one value segment – plantation. Smallholders make up about 43.0 percent of the total planted area in Indonesia; on average, each farmer owns about 2 to 3 ha of land. It is estimated that there are more than 1.4 million palm oil farmers in the country. The smallholders land under the Plasma Scheme are managed, developed and supported by nucleus companies. For example, FFB from plasma estates are delivered to palm oil mills of nucleus companies to be processed into CPO.

**Key Market Player Comparison****Figure 28: Comparison of Selected First Tier Market Players' Business Portfolios**

Company	Upstream Value Segments		
	Plantation	Milling	Refining
Golden Agri-Resources	✓	✓	✓
BW Plantation	✓	✓	
Sampoerna	✓	✓	
Tunas Baru Lampung	✓	✓	✓
Gozco	✓	✓	
Astra Agro Lestari	✓	✓	
DSN	✓	✓	
Asian Agri	✓	✓	✓
SMART	✓	✓	✓
Bakrie	✓	✓	✓
Lonsum	✓	✓	
Sime Darby	✓	✓	✓
Wilmar	✓	✓	✓
Cargill	✓	✓	

Source: IMR Report

5. INDUSTRY OVERVIEW (Cont'd)



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**Demand and Supply Conditions**

**Figure 29: Demand and Supply Conditions Affecting the Palm Oil Industry in Indonesia, 2015**



Source: IMR Report

**Demand Conditions**

The following factors represent key trends, developments and events influencing market demand:-

- 1) Increase in Global Population, Income and Per Capita Consumption

Palm oil will see a growth in demand over the long term considering the increase in population, income as well as per capita consumption especially in countries with currently lower income and lower levels of consumption such as Bangladesh, India and Nigeria. The FAO projected that the world population will grow to 9.55 billion by 2050 (from 7.24 billion as at 2014) with the majority of growth occurring in Asia. In the developing countries, it is estimated that oils and fats consumption per year will increase from 10-15 kg per capita to 25 kg per capita within 20 years.

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**5. INDUSTRY OVERVIEW (Cont'd)**

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Another important factor is income. A strong economic growth will lead to a rise in income through such factors as greater economic activities and better employment opportunities taking place and ultimately drive higher consumption and demand. India and China, two of Indonesia's biggest export market, are taking the lead in terms of economic growth. Both countries are already the world's largest three consumers of vegetable oils together with the EU. Economic growth in countries will affect domestic consumption of palm oil and hence palm oil demand.

### 2) Full Implementation of China-ASEAN FTA

The full implementation of the China-ASEAN FTA on 1st January 2010 has benefitted Indonesia with easier access to new markets for its manufactured product and raw materials including palm oil. Palm oil was categorised as a sensitive product and its tariff was reduced to 9.0 percent from the previous 30.0 percent. Tariff for items categorised in the sensitive list will be reduced to 5.0 percent or below by 2018 in the China-ASEAN FTA. The lower tariff meant that China could import Indonesia palm oil at a lower price, thereby increasing the competitiveness of the commodity in the huge market there.

### 3) Increasing Demand for Biofuel

The growing concern on climate change and the over reliance on crude mineral oil as a source of fuel has created a growing demand for all vegetable oils including palm oil to be used as fuel. The EU, being the major user of biofuels, targets for the use of biofuel to reach 5.0 percent of total transport fuel demand by 2020. Although the global decline of crude oil prices in the second half of 2014 has somewhat affected the demand for palm oil as a biofuel, the impact is expected to smoothen out over the long term.

In addition, palm oil is also being used in Europe and the USA as a substitute for rapeseed and other edible oils, which are increasingly being used for fuel purposes. Furthermore, the Indonesian government plans to increase its biofuel subsidies from IDR1,500 per litre to IDR4,000 per litre. Thus, demand for palm oil will be on an upward trend in both direct and indirect ways as a result of an increasing demand for biofuels and as a result spur growth in Indonesia's palm oil industry. Nevertheless, there are risks whereby the increasing constraints of CPO substitution may cause a structural slowdown in the demand for palm oil in the biodiesel sector.

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**5. INDUSTRY OVERVIEW (Cont'd)**

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**4) Preferential Trade Agreement ("PTA") between Indonesian and Pakistan**

Pakistan's import of Indonesian palm oil has dropped significantly since 2008. This change took place since Pakistan established a Free Trade Agreement ("FTA") with Malaysia in the same year reducing import duties on Malaysian palm oil from 15.5 percent to 5.5 percent and further reduction to 0.5 percent in 2010. As a result, Indonesia's export to Pakistan reduced from 788,100 tonnes in 2007 to 90,300 tonnes in 2010.

Losing a significant portion of Pakistan's market its direct competing country, Malaysia, has pressured the Indonesian government to sign a PTA with Pakistan to reduce its import duties. Upon implementation, the PTA will call for Pakistan to provide 15.0 percent reduction in tariffs for Indonesian CPO. In addition, the governments of Indonesia and Pakistan have plans to discuss an FTA, which further boosts potential trade opportunities. Meanwhile, with the signing of PTA, Indonesia palm oil industry is anticipating an increase in export demand from Pakistan.

The PTA, which was effective from 1<sup>st</sup> September 2013 has significantly contributed to the export market. In 2014, CPO shipments to Pakistan rose by 84.0 percent to 1.7 million tonnes.

**5) Increasing Local Demand for Palm Oil as an Edible Oil**

Indonesia has a strong domestic market for its locally produced palm oil. In 2014, Indonesia's domestic palm oil consumption is estimated to be 8.8 million tonnes. Palm oil is mainly consumed as edible oil in the country; the increase in local palm oil demand stems from the fact that palm oil is the world's cheapest edible oil and hence the primary cooking oil for the majority of the poor population living in Indonesia. Given Indonesia's ready supply of the commodity for domestic consumption, it is foreseeable that there will be perpetual consumption of palm oil as the favoured edible oil in the country.



## 5. INDUSTRY OVERVIEW (Cont'd)



## 6) Low Price of Palm Oil Compared to Other Major Oil and Fats

The price of palm oil is still the lowest in comparison with other vegetable oils such as soybean oil, sunflower oil and rapeseed oil. The relatively low price of palm oil is expected to drive demand for this commodity over the long term.

**Figure 30: Annual Average Prices of Selected Oils and Fats, 2006 – 2014 (USD/tonne)**

Year	CPO	Soybean Oil	Sunflower Oil	Rapeseed Oil
2006	478	599	658	794
2007	780	881	1,022	969
2008	949	1,258	1,499	1,329
2009	683	849	855	858
2010	901	989	1,074	1,013
2011	1,125	1,299	1,360	1,368
2012	1,000	1,227	1,263	1,241
2013	857	1,057	1,124	1,082
2014	821	909	902	907

Source: IMR Report

### Supply Conditions

The following factors represent key trends, developments and events influencing market supply:-

#### 1) Increasing Oil Palm Yield and Harvesting Area

Palm oil production in Indonesia is expected to increase in the coming years arising from the maturing of oil palm plantations. The average commercial lifespan of typical oil palm trees stands at 25 years. Generally, oil palm begins producing fruits 30 months after being planted in the field. During the early stages, yield of oil palms are relatively low but gradually increases as it matures. The peak production of oil palm is from year 7 to 18; thereafter, the yield curve decreases until it is no longer commercially viable for harvesting.

It is foreseeable that Indonesia's production will also increase over the years owing to the vast acreage of immature oil palm plantation, increasing yield and expanding acreage. In addition, the country has reportedly increased its oil palm planted area every year, ensuring the continued growth in production of palm oil.

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**5. INDUSTRY OVERVIEW (Cont'd)**

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**2) Governmental Support for Oil Palm Plantations**

The Indonesian palm oil industry is a major driver to the country's economy. Being one of the world's largest producer and supplier of palm oil has positioned Indonesia in global significance. The palm oil industry has helped the country reduce the poverty rate, increase the employment rate, bring development to the rural areas and increase export. Recognising the significance of the palm oil industry to the country's present and future development, the Indonesian government continuously provides support to oil palm plantations. Amongst its initiatives include replanting oil palms that has exceeded 25 years of age and are no longer productive; encouraging the use of certified quality oil palm seedlings to increase oil palm quality; increasing farmer access to quality oil palm seedlings, training farmers on planting techniques, supplying certified quality seedling to districts that have been inflicted with natural disasters, conflicts, poverty and other rural areas, developing infrastructure and transportation means to facilitate the activities in the palm oil industry, and introducing crop-livestock integrated farming to planters. These initiatives are aimed to increasing productivity in the oil palm plantations that will uphold the supply of FFB and palm oil products in the future.

**3) Governmental Support for Palm Oil Downstream Activities**

The Indonesian government is planning to expand the palm oil industry's downstream activities as it currently accounts for approximately 5.0 percent of the palm oil industry.

In 2009, Indonesia produced about 8.7 million tonnes of palm cooking oil, 300,000 tonnes of biodiesel and 500, 000 tonnes of oleochemicals. The Indonesian government has issued the long-term scheme (2015-2025) targeted at providing support to the palm oil industry's growth, by means of creating industry clusters, increasing access to raw materials, preparing the necessary infrastructure and initiating various projects that would boost downstream activities. Through these initiatives, the government targets to increase palm cooking oil production to 9.2 million tonnes, biodiesel to 4.8 million tonnes and oleochemicals to 1.5 million tonnes.

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**5. INDUSTRY OVERVIEW (Cont'd)**

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**4) Heavy Capital Expenditures by Palm Oil Companies**

Many large oil palm companies are beginning to invest intensively in upstream production activities as well as expanding their downstream business. Example of capital expenditure includes adding to their oil palm planted area and increasing production capacity of processing mills and/ or refineries or building industry-related infrastructures. These expansions will not only influence the future of the company but also directly increase the supply of palm oil products. As private sector entities continue heavily investing in the palm oil industry and its processing capacities, additional value growth is likely to be achieved over the long run.

**Outlook of the Palm Oil Industry in Indonesia**

The outlook for the Indonesian palm oil industry remains positive throughout the forecast period with expectations that demand for palm oil will continue to grow. Growth in the said industry is likely to be mainly driven by the increase in the global and local population especially the continuous consumption in most populous countries such as China and India. Demand is also likely to come from the increasing use of palm oil in biofuels in countries such as EU, implementation of the China-ASEAN Free Trade Agreement effectively reducing tariff on the China's import of palm oil, and the establishment of a Preferential Trade Agreement between Indonesia and Pakistan that aims to increase palm oil export demand from Pakistan. In addition, the lower price of palm oil as compare to other major vegetable oils is likely to support global demand for palm oil and uphold the palm oil industry in Indonesia.

Indonesia is one of the world's largest producers of palm oil. It is expected that palm oil production in Indonesia will increase in the coming years arising from the maturing of oil palm plantations. The annual increase of palm oil planted area will also be able to support continuous global demand for palm oil in the long term. The Indonesian government is lending support to the palm oil industry to expand and increase the oil palm plantations and downstream activities via various schemes and initiatives. In view of the growing demand for palm oil, many oil palm companies are investing intensively in their upstream and downstream production activities in anticipation for growing demand.

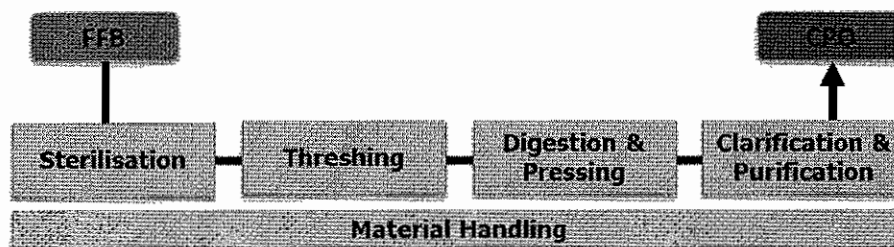
The industry was valued at IDR258.17 trillion in 2014 and it is expected to grow at a CAGR of 9.4 percent during the forecast period to IDR404.05 trillion in 2019.

## 8 THE PALM OIL MILLING MACHINERIES SECTOR IN MALAYSIA AND INDONESIA

### Palm Oil Milling Process

Palm oil milling is the first mechanical process undertaken in the production of CPO from FFB. It consists of several stages namely material handling, sterilisation, threshing, digestion and pressing, clarification and purification. Figure 31 depicts the general processes undertaken by palm oil millers to extract CPO from FFB.

**Figure 31: CPO Extraction Process Flowchart**



Source: IMR Report

### ***Material Handling***

The material handling stage occurs throughout the milling process beginning with the reception of FFB from surrounding oil palm plantations. The fruits, which arrive either in bunches or loose fruits, are transported to the palm oil mill's *marshalling yard* – an area where the activities of material handling are carried out. A *feeder* is located between the FFB stockpile and the conveyor; it consists of several gates monitoring the input of FFB onto the conveyor. This is done via controlling the opening and closing of the feeder gates so that FFBs are not overloaded onto the conveyor but are spread evenly throughout. The FFBs loaded onto the conveyor are led into designated *cages*. Cages are large steel-containers that lodge and transport the FFB into the steriliser. This is known as the *dry end*, as FFBs remain dry during the length of the process.

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**5. INDUSTRY OVERVIEW (Cont'd)**

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***Sterilisation***

The FFB cage mobilises on rail tracks directed towards the *bridges* and into the *steriliser* for the cooking process. A conventional steriliser has a shape of a long horizontal chamber. Once in the chamber, the door of the steriliser is sealed before high-temperature pressurised steam is injected through strategically distributed nozzles within the chamber. The steam is produced by the palm oil mill's integrated boiler system.

Sterilisation is a crucial process of palm oil milling because it helps destroy the oil-splitting enzymes and halt the built up of FFA which could affect the quality of CPO. The sterilisation of the FFBs also weakens the pulp structure to detach the fibrous materials and loosen the kernels within the shells, facilitating further processing such as threshing, digestion and pressing. Generally, the sterilisation process in a conventional mill last from 60 to 90 minutes.

After sterilisation, the FFB cage carrying the sterilised fruits is pull out from the steriliser and transfer to the thresher via an *overhead crane tipping* or *tipper*. The area after the steriliser is known as the *wet end* due to the dampness of the sterilised fruits.

***Threshing***

Threshing is a process of separating the fruits from the bunch stalk in a *thresher drum*. The rotating drum within the thresher imitates the motions of shaking and tumbling to the sterilised FFBs causing the fruits to be detached from the fruit bunches. The fruits discharged from the thresher will be sent to the digestion and pressing stage while the Empty Fruit Bunches ("EFB") will be conveyed to another process.

***Digestion and Pressing***

Digestion is a process of loosening the pericarps from the nuts for better oil extraction. The *digester* is a steam-heated cylindrical container with rotating shafts within. The pounding or digesting motions generated by the central rotating shafts loosens the pericarps from the nuts while high temperature steam reduces the viscosity of the oil and destroy the exocarps (the outer layer of the pericarps) to expose the mesocarp. It is important that the digester is always kept full; hence, as digested fruits are drawn out freshly threshed fruits are brought in simultaneously.

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**5. INDUSTRY OVERVIEW (Cont'd)**

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The digested fruits are drawn out from the digester and into the *presser*. Pressing is a process of applying mechanical pressure on the digested fruits to squeeze out the oil.

***Clarification and Purification***

Clarification is a process of separating the impurities from the oil. A mixture of oil, water, fruits and nuts discharged from the press goes through the clarification process for filtration. Due to the high viscosity of the mixture, hot water is first added to dilute the mixture. The diluted mixture goes through a preliminary screening to remove any coarse fibres which are sent to the boiler as fuel feedstock. Subsequently, the diluted mixture is boiled from one to three hours and then allowed to settle by gravity in a large tank. The dilution acts as a barrier between the heavy solids (which will sink to the bottom) and the lighter oil fluids (which will rise to the top).

Clarified oil at the top is decanted into a reception tank while the nuts are sent to the palm kernel plant for the CPKO extraction process. The CPO collected in the reception tank contains impurities such as fruit fibres, free moisture and nut shells which are later removed through purification process.

**Automation of the Palm Oil Milling Process**

Over the years, methods of palm oil milling have evolved from manual operation to automation systems, from simple equipment to complex machineries and from small-scale output to large-scale production. At present, many palm oil millers practice large scale CPO production depending on the size of the palm oil mills and plantations.

In tandem with rapid technological advancement, conventional methods of palm oil milling are constantly evolving to increase productivity. Currently, there is a growing industrial trend to incorporate *automation* into the palm oil milling process. Automation is an extension of mechanisation; it combines the usage of information technologies and control systems to enhance the workings of machineries. Conventionally, palm oil milling machineries are manually operated; it provides mechanical assistance in carrying out the mechanical activities of which are beyond a human's capabilities. Since then, technology innovation has improved palm oil milling practices. One of the notable contributions of the automated palm oil milling machineries is the reduction of the need for human mental, sensory and physical labour to

## 5. INDUSTRY OVERVIEW (Cont'd)



operate the machineries. The following describes the benefit of automating palm oil milling machineries.

- Automation replaces the need of using human operators to carry out physical work and/or working in a dangerous environment. As a result, it frees up workers to carry out other roles while at the same time reducing the risk of potential work hazards.
- Automation helps to perform tasks beyond the natural capabilities of human such as consistency, speed, strength and endurance. Hence, it helps to reduce operational lag time, reduces human errors and increase productivity.

Most importantly, the benefits of automating the palm oil milling machineries is associated with immense cost effectiveness, for example, there are cost savings from reducing the number of human resources needed to operate machineries, coupled with higher and more consistent output.

The majority of existing palm oil milling activities from material handling of FFB to the eventual output of CPO is carried out with non-automated machineries. Nevertheless, automated systems are gradually replacing these conventional machineries; there is a growing trend amongst palm oil millers to convert or integrate automation into as section or the entire production process.

The extent of automation in palm oil mill processes remains relatively limited; however, with continuous research and development, it is expected that automation will become an important element in the palm oil milling machineries sector in the near future. The following describes and compare selected process commonly automated in palm oil mills.

### ***Material Handling***

In conventional palm oil mills, material handling is dependent on operators to physically load and unload the FFB or oversee the mobilisation of the FFBs and the fruit cages. In contrast, automation systems greatly reduce the mill's labour intensity. The mobilisation of the FFBs and fruit cages are digitally controlled, monitored and directed by operators from safe distances.

### ***Sterilisation***

Fruit cages are manually manned in conventional mills; operators have to manually move the bridge in place to transfer fruit cages into steriliser, open and seal the

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**5. INDUSTRY OVERVIEW (Cont'd)**

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steriliser door, and to pull fruit cages out of steriliser with the assistance of the winch and bollard. These conventional methods are not only labour intensive but also put the operators at risk due to the involvement of heavy machineries and high temperature during the sterilisation process. In contrast, the automation system allows operators to control and monitor the sterilisation process from safe distances. Automated cantilever bridges, cage indexers and automated doors replace the conventional methods of mobilising the fruit cages to and from the sterilisers. The automation system markedly hastens the production process as well as creates a safer working environment for the operators.

In a conventional mill, fruit cages are hoisted by overhead cranes as it tips the sterilised fruits into the thresher whereas the automated method utilises a *tipper*. The fruit cages drawn out of the steriliser are moved towards the tipper – a rotating frame that tips the cages over to unload the sterilised fruits onto the conveyor. Also, the speed of the tipper can be digitally linked and aligned to the thresher, digester and presser; hence, regulating the input and output of fruits to prevent overloading of the production line.

#### ***Digestion and Pressing***

Digestion and pressing is a crucial process of the palm oil mill that calls for imperative coordination. It is important that the digester is always kept full at a certain level; hence, as digested fruits are drawn out freshly threshed fruits are brought in. To this end, coordination between the thresher, digester and presser is required.

Conventionally, this coordination falls to the duty of the operators to constantly check the levels of the digesters and release the valve for the digested fruits to enter the presser while refilling the digesters. The automation system eliminates the dependency on operators. It is able to digitally determine the mass level within the digester and automatically control the opening and closing of the feed door. It is also able to control the opening and closing of the digester's discharge chute and release the digested fruits into the presser.

The presser has also since been automated, it ensures continuous and consistent pressing operation by digitally controlling the mechanical pressure applied.



## 5. INDUSTRY OVERVIEW (Cont'd)

**Others**

Not only do automation systems control and manage major processes; but it could also be applied to supporting activities such as the automatic detection of faulty or unusual occurrence during operation, a system to ensure consistency and sufficient steam supply for the milling process, measurement and weighing system to provide accurate readings of liquid stored in tanks or silo as well as provide miller with data and performance trends on the processes. The extent of an automation system is not limited to the aforementioned; in time, automation could potentially be integrated into all the processes at a palm oil mill.

**Market Dynamics Scorecard**

**Figure 32: Market Dynamics Scorecard for the Palm Oil Milling Machineries Sector in Malaysia and Indonesia**

Market Dynamics Indicators	Malaysia	Indonesia
2014 Market Size	RM2.54 billion	IDR15.57 trillion
2019 Forecast Market Size	RM4.37 billion	IDR26.59 trillion
Forecast Period Market CAGR (2014 – 2019) (%)	11.4	11.3
Types of Market Players	Mechanical fabricators, equipment suppliers, system providers, and civil, mechanical and electrical engineers.	
2015 Demand Conditions	Driving the Market, sustained positive impact throughout forecast period	
2015 Supply Conditions	Driving the Market, sustained positive impact throughout forecast period	
Threat of Substitution	Low	
Reliance on Imports	Medium	

Source: IMR Report

## 5. INDUSTRY OVERVIEW (Cont'd)



### **Historical Market Performance and Growth Forecast**

The palm oil milling machineries sector in Malaysia and Indonesia are detailed in the following sections. Protégé Associates has provided the historical performance and growth forecast of the palm oil milling machineries sector in Malaysia and Indonesia based on the primary and secondary research as well as analytical works conducted.

#### **Malaysia's Palm Oil Milling Machineries Sector**

Malaysia's position as the world's second largest producer of palm oil continues to spur growth for the palm oil industry and hence the palm oil milling machineries sector. The fluctuating growth rate exhibited in the 2011 to 2013 periods is not unusual for the palm oil milling machineries sector trends which are cyclical according to the replacement and upgrade lifecycles of milling equipment and plants.

**Figure 33: Market Size and Growth Forecast for Malaysian Palm Oil Milling Machineries Sector, 2010-2019**

Year	Market Size (RM billion)	Growth Rate (%)
2010	2.08	-
2011	2.16	4.2
2012	2.37	9.5
2013	2.45	3.6
2014	2.54	3.5
2015	2.99	17.6
2016	3.27	9.5
2017	3.66	12.0
2018	4.00	9.3
2019	4.37	9.1

*CAGR (2014– 2019): 11.4 percent*

*Notes:*

- 1. All figures are rounded; the base year is 2014;*
- 2. Market size and its corresponding growth rate from 2015 to 2019 are forecast.*

*Source: IMR Report*

In 2013, the Malaysian palm oil milling machineries sector registered lower growth of 3.6 percent due to slower expansion of mill capacities. The slow growth was projected to persist in 2014 due to unfavourable CPO prices which may cut or defer the investment on the maintenance and upgrade of milling equipment and plants by the millers. Nevertheless, the Malaysian palm oil milling machineries sector is forecast to continue on its growth trajectory

## 5. INDUSTRY OVERVIEW (Cont'd)

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with CAGR between 2014 and 2019 estimated at 11.4 percent. The market is estimated to be valued at RM4.37 billion in 2019. This is highly correlated with the positive performance of Malaysia's palm oil milling sector. The increased milling activity necessitated by greater FFB production in the country continues to prompt palm oil millers and plantations to establish new mills and/or increase existing milling capacity. It is highly expected that these trends will perpetuate demand for palm oil milling machineries and hence growth in the market.

#### Indonesia's Palm Oil Milling Machineries Sector

Indonesia's palm oil milling machineries sector has seen positive double-digit growth from 2011 to 2012. This is tandem to the growth and rapid expansion of Indonesia's palm oil industry, which positioned the country as the world's largest producer of palm oil.

**Figure 34: Market Size and Growth Forecast for Indonesian Palm Oil Milling Machineries Sector, 2010-2019**

Year	Market Size (IDR trillion)	Growth Rate (%)
2010	9.91	-
2011	11.70	18.0
2012	13.31	13.8
2013	14.53	9.1
2014	15.57	7.1
2015	17.87	14.8
2016	20.01	12.0
2017	22.21	11.0
2018	24.16	8.8
2019	26.59	10.1

CAGR (2014– 2019): 11.3 percent

Notes:

1. All figures are rounded; the base year is 2014;
2. Market size and its corresponding growth rate from 2015 to 2019 are forecast.

Source: IMR Report

Growth in the Indonesian palm oil milling machineries sector remained encouraging in 2013 as the Indonesian palm oil industry continued to promote its downstream activities. Growth is expected to moderate in 2014 due to unfavourable palm oil prices in the global market, and this may lessen the investment on refurbishing of equipment and plants by palm oil millers. However, a 7.1 percent growth is estimated in 2014 in line with the Indonesian government's effort to promote downstream activities locally. The Indonesian government has issued a

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**5. INDUSTRY OVERVIEW (Cont'd)**

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policy development of CPO processing industry through two schemes namely medium-term scheme (2010-2014) and long-term scheme (2015-2025). These two schemes target to provide support by means of industry clusters, raw materials, infrastructure and various projects that would boost the downstream activities.

In the next five years, the Indonesia's palm oil milling machineries sector is forecast to exhibit strong growth, with CAGR between 2014 and 2019 estimated at 11.3 percent. The irregular growth displayed is not unusual for the palm oil milling machineries sector as it goes through a cyclical trend. The market is estimated to be valued at IDR26.59 trillion in 2019. This is highly correlated with the performance of Indonesia's palm oil milling sector which is expected to experience steady growth in tandem with the gradual increase of the palm oil milling capacities and activities in the country. There is a growing trend amongst palm oil millers to improve milling practices which is envisaged to spur demand for new and upgraded palm oil milling machineries. Lastly, Indonesia's palm oil milling machineries sector is also supported by the government's long-term scheme (2015-2025) as a means to develop the downstream activities.

**Competitive Analysis**

Malaysia and Indonesia are the two largest producers of CPO; together they fulfill approximately 90.0 percent of the world's palm oil demand. Palm oil milling activities in the two countries generally apply the same milling methods throughout its milling process of material handling, sterilisation, threshing, digesting and pressing, and clarification and purification. Therefore, the same palm oil milling technology and machineries are found between the two countries' palm oil industry.

The geographical proximity between Malaysia and Indonesia forged an open regional market whereby one local supplier of palm oil milling machineries can easily access into the other's market. The result is a competitive landscape where there is an overlap between the market players of Malaysia and Indonesia. Hence, the following analysis will include market players from Malaysia and Indonesia to provide a more expansive understanding to the competitive landscape of the palm oil milling machineries sector.

## 5. INDUSTRY OVERVIEW (Cont'd)

### Types of Market Players

The palm oil milling machineries sector players can be segmented into four categories according to the product and/ or supporting services offered by their businesses. They consist of mechanical fabricators, equipment suppliers, system providers, and civil, mechanical and electrical engineers.

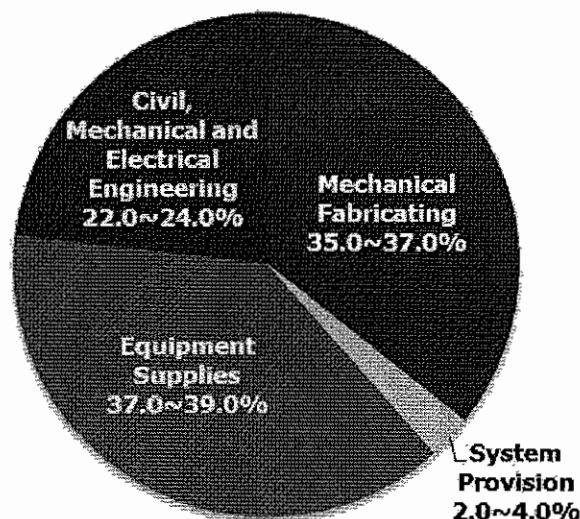
**Mechanical Fabricators** provide fabricating services to a palm oil mill. They have the facilities and capabilities to supply custom fabricating work for boiler breeching, steel structure fabrication, assembly, piping systems and others.

**Equipment Suppliers** consist of all suppliers of machineries and equipment to a palm oil mill. They supply heavy machineries such as steriliser, boiler, digester, carriage, thresher, hydraulics, conveyor and the other related products.

**System Providers** provide technological products and solutions to the palm oil mills. It integrates hardware and software to automate the machineries and milling activities.

**Civil, Mechanical and Electrical Engineers** design and construct the built environment of the palm oil mill including works associated with access roads and bridges, building structures, and power systems to support the operation of the palm oil mill.

**Figure 35: Breakdown of Palm Oil Milling Machineries Sector by Core Product/ Service for a Typical Palm Oil Mill, 2014**



Source: IMR Report

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**5. INDUSTRY OVERVIEW (Cont'd)**

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Equipment suppliers account for the largest fraction in the palm oil milling machineries sector; this is mainly due to the high cost associated with proprietary heavy-duty machineries such as sterilisers, threshers, digesters, pressers and others. Mechanical fabricating takes up the second largest portion of the market with between 35.0 to 37.0 percent. Civil, mechanical and electrical engineering market shares take up about 22.0 to 24.0 percent. Under developed infrastructure in the rural areas requires higher spending in the civil, mechanical and electrical engineering segment. System provision takes up the smallest fraction of the pie accounting for approximately 2.0 to 4.0 percent of the palm oil milling machineries sector.

Dolphin currently caters to the mechanical fabricating segment with the provision of engineering, development and integration of palm oil milling machineries for the palm oil miller. It is involved in the equipment supplies segment with the sale of electro-automation, pneumatic hydraulic and related proprietary systems and products. Dolphin is also involved in the system provision segment with its system hardware and software application solution offerings for a palm oil mill.

The market players in the palm oil milling machineries sector may participate as one or more of the abovementioned categories. Suppliers of palm oil milling machineries sector generally hold one flagship product/ service as each covers a wide scope in specialised work field. However, there are suppliers that have included a secondary category as a means of increasing their competitive advantage by offering more comprehensive solutions to customers.

Prior to the setup of a palm oil mill, site location, process flow, machineries and equipment and other aspects need to be carefully considered and planned. Generally, a palm oil miller would employ the expertise of a process engineer to design the layout of the entire palm oil mill. This expertise is commonly offered by mechanical fabricators and system provider as their core activities lies in the integration and operation of palm oil mills.

It is also a market norm for various suppliers of the palm oil milling machineries to establish ad hoc partnerships with each other to deliver a more comprehensive value proposition for the customers. These symbiotic partnerships are more frequently seen during new establishment of palm oil mill or major refurbishing projects. Other times, the suppliers of palm oil milling machineries are individually engaged for their specialised products and services offered.

## 5. INDUSTRY OVERVIEW (Cont'd)

**Key Market Players**

Figure 36 shows a list of selected players in the palm oil milling machineries sector. It further describes the establishment, product offering and revenue of the selected players. These key market players are selected based on their business activities and involvement in the palm oil milling machineries sector as well their size in tandem with their respective financial performance. The list of these major players is not exhaustive and each major player's product offerings may not exactly coincide with others'. Market players may participate in one or more markets other than the palm oil milling sector in Malaysia and Indonesia.

**Figure 36: Selected Key Market Players in the Palm Oil Milling Machineries Sector**

Market Players	Description
Besteel Berhad ("Besteel")	<ul style="list-style-type: none"> <li>Established in 1983 in Malaysia as a fabrication and installation company to service industries such as hand gloves manufacturing plants, palm oil mills and cement plants. Besteel is presently a non-listed public company.</li> <li>Principally involved in the design, supply, construction, installation, commissioning and maintenance works for palm oil mills in Malaysia and also involved in various discipline of engineering servicing the cement, oil and gas and other industries both locally and internationally.</li> <li>Supply and integrate all components of the palm oil mill including steriliser, boiler, digester, cage transfer carriage, fabrication and installation works. Also provides retrofitting, upgrading, refurbishing and modernising existing plant equipment.</li> <li>Also offers turnkey solutions that cover site management studies, software development, design, engineering, project management and finance.</li> <li>Supplies to the Indonesian, Malaysian and Thai palm oil industries.</li> <li>In 2003, Besteel achieved ISO9001:2000 Certification of Quality Management System in Design, Fabrication and Installation Services for Mechanical Works and Palm Oil Processing Plant Sector.</li> <li>Revenue for financial year ended 31 January 2013 is RM43.1 million and a profit after tax of RM3.1 million.</li> </ul>
Bosch Rexroth Sdn Bhd ("Bosch Rexroth")	<ul style="list-style-type: none"> <li>Bosch Rexroth is a German-based Corporation which started operation in Malaysia in 1978.</li> <li>Designs and constructs hydraulic and pneumatic systems.</li> <li>Customising linear guiding components, precision ball screws and linear modules for the industrial machinery sector.</li> <li>Customise and assemble aluminium profile frames, modular assembly workstations and conveying lines.</li> <li>Supply locally developed hydraulic systems for palm oil milling sector in South East Asia and other parts of the world.</li> <li>Revenue for financial year ended 31 December 2013 is RM86.2 million and profit after tax of RM1.4 million.</li> </ul>
CB Industrial Product Holding Berhad ("CBIP")	<ul style="list-style-type: none"> <li>Established in 1979 and listed on Bursa Malaysia Main Board in July 2005.</li> <li>Equips palm oil mills with processing equipment and replacement parts. Also a turnkey contractor for palm oil mills.</li> </ul>

## 5. INDUSTRY OVERVIEW (Cont'd)

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Market Players	Description
	<ul style="list-style-type: none"> <li>Product offerings include centrifuge, digester, cracker, screw press, boiler, cage tipper, steriliser vessel, thresher and FFB cages.</li> <li>Established Modipalm Engineering Sdn Bhd as a wholly owned subsidiary in 2003 to commercialise the continuous sterilisation technology jointly developed by CBIP and the Malaysian Palm Oil Board.</li> <li>Supplies to Malaysia, Indonesia, Papua New Guinea, West Africa and Central and South America.</li> <li>Group revenue for financial year ended 31 December 2014 is RM565.4 million and profit after tax of RM99.2 million.</li> </ul>
Dolphin International Berhad	<ul style="list-style-type: none"> <li>Founded in 1992 to provide customised automation system and services to various industries.</li> <li>Started focusing on products and services to the palm oil milling sector in 1995.</li> <li>Principally involved in the sale, design, engineering, development and integration of electro-automation, pneumatic, hydraulic and related proprietary systems and products, as well as system hardware and software application solutions for the palm oil milling sector.</li> <li>Supplies to the palm oil milling sector in Malaysia, Indonesia, Asia Pacific and Latin America.</li> <li>In 2008, one of its subsidiaries, Dolphin System Sdn Bhd was awarded with Multimedia Super Corridor status.</li> <li>Dolphin Group's quality management system was also accredited with ISO9001:2008.</li> <li>The Group's revenue for financial year ended 31 December 2014 is RM104.6 million and profit after tax of RM12.9 million.</li> </ul>
Eaton Corporation Plc ("Eaton")	<ul style="list-style-type: none"> <li>Founded in 1911 and headquartered in USA.</li> <li>Supplier of electrical components and systems for power quality, distribution and control; hydraulics components, systems and services for industrial and mobile equipment aerospace fuel, hydraulic and pneumatic systems for commercial and military use; and truck and automotive drivetrain and powertrain systems for performance, fuel economy and safety.</li> <li>Products are sold to customers in more than 150 countries from various industries.</li> <li>Involved in the palm oil milling machineries sector by offering power management solutions in power transmission for material handling, automation and control, steam optimisation, liquid/ solid separation and gas/ solid separation.</li> <li>Revenue for financial year ended 31 December 2014 is USD22.6 billion and profit after tax of USD1.8 billion.</li> </ul>
Ecoscience Engineering Sdn Bhd ("Ecoscience")	<ul style="list-style-type: none"> <li>Incorporated in 2003 in Malaysia.</li> <li>Principally involved in the mechanical fabrication and erection works for palm oil mills, kernel crushing plant, bulking installations, palm oil refineries, oleochemical and biodiesel plants.</li> <li>Revenue for financial year ended 31 December 2012 is RM64.0 million and profit after tax of RM0.7 million.</li> </ul>
Festo Sdn Bhd ("Festo")	<ul style="list-style-type: none"> <li>Festo Group was founded in 1925 in Germany. Festo was incorporated in Malaysia in 1978.</li> <li>It has 59 independent national companies serving more than 300,000 customers in 176 countries.</li> <li>Provider of pneumatic and electrical automation technology.</li> <li>It is also a provider of skills development for production and process automation.</li> </ul>



## 5. INDUSTRY OVERVIEW (Cont'd)

**Protégé**  
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Market Players	Description
	<ul style="list-style-type: none"> <li>Festo's automation solution covers a variety of industries, such as electronics, palm oil mills and water treatment plant.</li> <li>Revenue for financial year ended 31 December 2013 is RM59.7 million and profit after tax of RM8.2 million.</li> </ul>
MSHK Engineering Sdn Bhd ("MSHK")	<ul style="list-style-type: none"> <li>Incorporated in 1990 in Malaysia.</li> <li>Principally involved in the fabrication and maintenance of palm oil milling plant and machinery and the distribution of palm oil milling machinery parts and hardware.</li> <li>An integrated turnkey contractor undertaking engineering and construction of palm oil mills, design and manufacturer of palm oil milling plant and machinery, and maintenance and upgrading of palm oil mills.</li> <li>Mainly supplies to Malaysia and Indonesia.</li> <li>ISO9001:2008 certified Quality Management System</li> <li>Revenue for financial year ended 31 December 2013 is RM92.1 million and profit after tax of RM7.6 million.</li> </ul>
Muar Ban Lee Group Berhad ("Muar Ban Lee")	<ul style="list-style-type: none"> <li>Established in 2006 and listed on Bursa Malaysia Main Board in October 2009.</li> <li>Principally involved in the design and manufacture of oil seed expellers and ancillary machinery for oil seed crushing plants, design, fabrication, installation and commissioning of oil seed crushing plants, and manufacture and sale of spare parts.</li> <li>Supplies to Malaysia, Indonesia, Nigeria, Papua New Guinea, Mexico, Costa Rica, Columbia, Portugal, South Africa, India, the Solomon Islands, Belgium, Guatemala, Philippines, Singapore, Sri Lanka, Tanzania, Thailand, Hong Kong, Vanuatu, the Ivory Coast, Netherlands, Cameroon, Gabon, Venezuela and the US.</li> <li>Involved in the palm oil milling machineries sector as a manufacturer of palm kernel oil expeller for extraction of palm kernel oil, oil filter for crude kernel oil and crude copra oil filtration.</li> <li>ISO9001:2008 certified Quality Management System.</li> <li>Revenue for financial year ended 31 December 2014 is RM47.3 million and profit after tax of RM4.1 million.</li> </ul>
PMT Industries Sdn Bhd ("PMT Industries")	<ul style="list-style-type: none"> <li>Established in 1983 in Malaysia. PMT Industries falls under the renewable energy division of Waso Energy Limited, a wholly owned subsidiary of Wah Seong Corporation Berhad.</li> <li>Principally involved in the manufacturing and supply of palm oil mill processing machineries, spare parts and provides services and repair of equipment.</li> <li>Supplies to Indonesia, Malaysia, Thailand and Latin American.</li> <li>PMT Industries' revenue for financial year ended 31 December 2013 is RM140.4 million and profit after tax of RM37.4 million.</li> </ul>
Process Integrator (M) Sdn Bhd ("Process Integrator")	<ul style="list-style-type: none"> <li>Incorporated in 2000 in Malaysia.</li> <li>Principally involved in the process and handling system of palm oil mill, process automation for steriliser and digester level controls, as well as weighing, grading, laboratory worksheet and reporting system.</li> <li>Revenue for financial year ended 31 March 2013 is RM0.7 million and loss after tax of RM0.3 million.</li> </ul>
PT Sintong Abadi ("Sintong")	<ul style="list-style-type: none"> <li>Established in 1996 in Indonesia.</li> <li>Principally involved in the manufacturing, engineering and trading in agricultural products, especially in palm oil and other agriculture products as well as designing and building palm oil mills and biodiesel plants.</li> </ul>

## 5. INDUSTRY OVERVIEW (Cont'd)

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Market Players	Description
	<ul style="list-style-type: none"> <li>Sintong also supplies selected palm oil mill equipment.</li> </ul>
Uni-Vessel Engineering (B'Worth) Sdn Bhd ("Uni-Vessel")	<ul style="list-style-type: none"> <li>Established in 1989, Uni-Vessel is engaged in the manufacturing and installation of plant and machinery for use in the palm oil industry.</li> <li>Uni-Vessel has two subsidiaries, namely, Uni-Vessel Engineering (Lahad Datu) Sdn Bhd and Uni-Vessel Automation Sdn Bhd.</li> <li>Uni-Vessel Engineering (Lahad Datu) Sdn Bhd was incorporated in 1996 as an engineering company, engaging in palm oil engineering works and industry services. It provides technical and engineering support and maintenance in the fabrication and installation of steel structures, pressure vessels, sterilisers, tanks, conveyors, piping and related equipment and machinery.</li> <li>Uni-Vessel Automation Sdn Bhd was incorporated in 2005 specialising in automated vertical steriliser complete with fruit handling system for palm oil mills. It also manufactures and services automation equipment for general process industries.</li> <li>Uni-Vessel Engineering (B'Worth) Sdn Bhd's revenue for financial year ended 30 June 2013 was RM86.6 million and profit after tax of RM4.7 million.</li> <li>Uni-Vessel Engineering (Lahad Datu) Sdn Bhd's revenue for financial year ended 30 June 2013 was RM4.6 million and profit after tax of RM0.1 million</li> <li>Uni-Vessel Automation Sdn Bhd's revenue for financial year ended 30 June 2013 was RM3.4 million and profit after tax of RM0.4 million.</li> </ul>

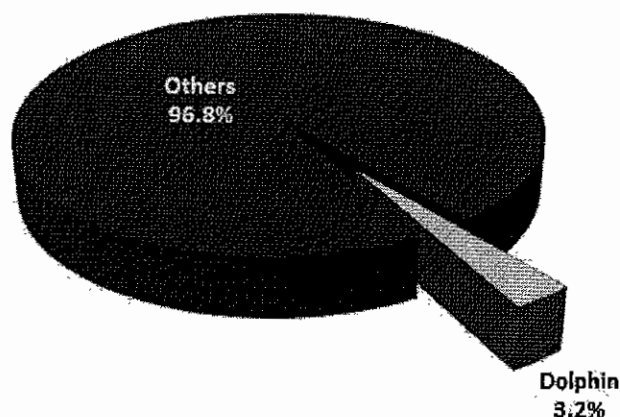
Source: IMR Report

### **Market Share Analysis**

Dolphin is principally involved as a supplier and integrator of palm oil milling machineries for the palm oil millers in Malaysia and Indonesia. Dolphin is able to provide palm oil millers with full palm oil milling machineries as well as supporting services ranging from the procurement and supply of various machineries to engineering and integration services and maintenance works. For financial year 2014, Dolphin garnered revenues of RM80.2 million from the Malaysian market, equivalent to 3.2 percent share of the palm oil milling machineries sector during the year, as illustrated in Figure 37. This is based on Dolphin revenue of RM80.2 million against Malaysia's market revenue of RM2.54 billion in 2014.

## 5. INDUSTRY OVERVIEW (Cont'd)

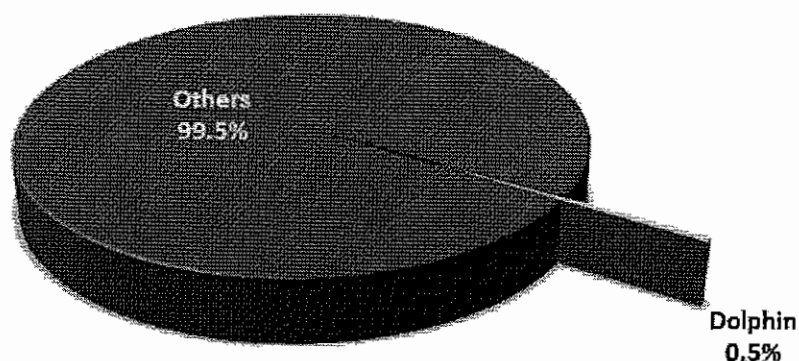
**Figure 37: Dolphin's Market Share in the Malaysia's Palm Oil Milling Machineries Sector, 2014**



*Source: IMR Report*

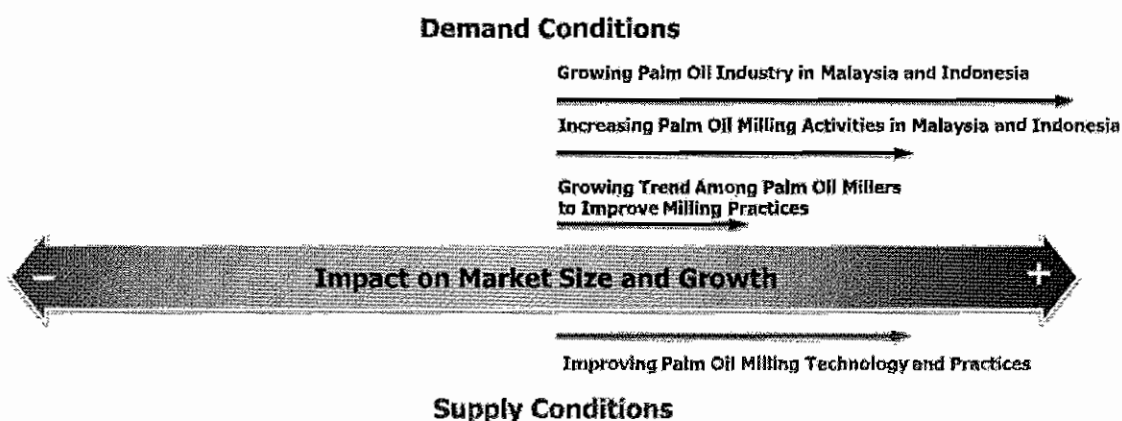
For financial year 2014, Dolphin also garnered revenues of RM23.0 million (or IDR83.31 billion based on a conversion rate of RM0.02762/IDR100) from the Indonesian market, equivalent to 0.5 percent share of the palm oil milling machineries sector as illustrated in Figure 38. This is based on Dolphin revenue of IDR83.31 billion against Indonesia's market revenue of IDR15.57 trillion in 2014.

**Figure 38: Dolphin's Market Share in the Indonesia's Palm Oil Milling Machineries Sector, 2014**



*Source: IMR Report*

## 5. INDUSTRY OVERVIEW (Cont'd)

**Demand and Supply Conditions****Figure 39: Demand and Supply Conditions Affecting the Palm Oil Milling Machineries Sector, 2015***Source: IMR Report***Demand Conditions**

The following factors represent key trends, developments and events influencing market demand:-

## 1) Growing Palm Oil Industry in Malaysia and Indonesia

Malaysia and Indonesia are the two largest producers of CPO, fulfilling approximately 90.0 percent of the world's demand. The palm oil industries are on the trajectory of growth underpinned mainly by the increasing global population, increasing demand for palm oil as a cheaper source of oil as compare to other vegetable oils and the growing usage of palm oil in biofuels. On the other hand, supply factors are supported by the increasing oil palm plantations, increasing oil palm yield and harvesting area and governmental support amongst many others. It is estimated that in 2014, the palm oil industry for Malaysia and Indonesia stood at RM55.26 billion and IDR258.17 trillion respectively. Indonesia's palm oil industry is expected to grow at a CAGR of 5.2 percent between 2014 and 2019 while Malaysia's palm oil industry is expected to grow at a CAGR of 9.4 percent between 2014 and 2019.

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**5. INDUSTRY OVERVIEW (Cont'd)**

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**2) Increasing Palm Oil Milling Activities in Malaysia and Indonesia**

One of the contributing factors to the growth of Indonesia's and Malaysia's palm oil industry is the increasing acreage of oil palm plantation supported by the establishment of new palm oil mills in the respective countries. Indonesia has the world's largest oil palm planted area with approximately 9.20 million ha in 2013. Based on the latest available information obtained from the Facts of Indonesian Oil Palm published in 2010 by the Indonesian Palm Oil Board, it was reported that there are a total of 608 palm oil mills in Indonesia as at 2009. Meanwhile, Malaysia has the second largest oil palm planted area in the world, with approximately 5.39 million ha in 2014, a 3.1 percent increase from the previous year. The increased planted area was supported by the establishment of five new palm oil mills, hence increasing the total number of palm oil mills in Malaysia to 439 in 2014.

Increasing oil palm plantation calls for an increase in palm oil milling activity which processes the FFBS into CPO. As a result, the palm oil industry will need to boost its palm oil milling capacities to support the growth of the oil palm plantations. This is usually carried out by either establishing new palm oil mills and/or upgrading the capacity of existing palm oil mills. Therefore, it is highly expected that an increase in palm oil milling activities will have a positive spill over effect on the palm oil milling machineries sector.

**3) Growing Trend Among Palm Oil Millers to Improve Milling Practices**

Continuous improvement to milling practices is an imminent trend for a progressing industry. Throughout history, the palm oil milling practice has evolved from being a labour intensive process to one that is machinery-dependent. Therefore, on-going improvements of palm oil milling practices are mainly applied to milling machineries. It gives the millers the ability to extract greater and better quality CPO at a faster speed and/or lower operating costs.

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**5. INDUSTRY OVERVIEW (Cont'd)**

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**Supply Conditions**

The following factors represent key trends, developments and events influencing market supply:-

**1) Improving Palm Oil Milling Technology and Practices**

Technology advancement is continuously improving palm oil milling practices in terms of the machineries employed. Due to the complexity and intensity of the milling process to extract CPO from FFB, the use of machineries is vital to the palm oil industry. This factor is especially pertinent to Malaysia and Indonesia as the magnitude of their palm oil industries necessitate the dependency on machineries for bulk processing. Advancement of technology has enabled the refinement of milling machineries and integration of software systems to process greater quantity of FFB and garner greater and better quality CPO at optimum speed and operating costs.

**Market Challenges**

The following factors represent issues that can affect the development of the market or the competitors within the market itself:-

**Fluctuations of Palm Oil Prices**

The palm oil milling machineries sector is dependent on the investment in replacement and upgrade of milling equipment and plants by palm oil millers. The investment decisions are often decided by the profitability of the business. Therefore, investment in the palm oil milling machineries increases when palm oil prices are favourable. Vice versa, palm oil millers tend to reduce their machineries investment when palm oil prices are unfavourable.

In 2014, the downward pricing trend continued as the average price for CPO stood at USD821/ tonne (2013: USD857/ tonne) due to stronger global edible oil supplies, coupled with a weaker demand for biodiesel usage in Indonesia and lower demand from China. Any prolonged unfavourable pricing trend may adversely affect the demand of the palm oil milling machineries sector in Malaysia and Indonesia.

Nevertheless, palm oil prices are anticipated to strengthen in near term given a slower growth in palm oil supply. The closing stock from Malaysia dropped to 995,529 tonnes in 2014 as opposed to 1.1 million tonnes recorded at end of 2013. Furthermore, GAPKI expects

## 5. INDUSTRY OVERVIEW (Cont'd)



the Indonesian palm oil industry to exhibit a soften production growth of 4.5 percent to between 32.5 to 33 million tonnes.

On top of the supply, higher demand for biofuel is also anticipated to support the palm prices. In Malaysia, biodiesel B7 was introduced at end of 2014. In addition, the Indonesian government plans to increase its biofuel subsidies from IDR1,500 per litre to IDR4,000 per litre as a move to lift CPO prices. As the palm oil prices are projected to recover, the palm oil milling machineries sector is forecasted to see a higher demand moving forward.

### **Barriers to Entry**

The palm oil milling machineries sector players are made up of mechanical fabricators, equipment suppliers, system providers, and civil, mechanical and electrical engineers. The barriers within each segment vary from one to the other.

Generally, mechanical fabrication and civil, mechanical and electrical engineering segments have relatively low entry barriers, compared to equipment suppliers and system providers. They play key supporting roles in the market such as fabricating steel structures to support the main milling machineries or design and construct the built environment of the palm oil mill.

Meanwhile, equipment suppliers and system providers have relatively high entry barriers. They supply proprietary heavy machineries such as steriliser, boiler, digester, thresher and other related products as well as proprietary technological products and solutions such as automation software. Barriers to entry include:

***High Capital Investment*** – Starting costs as equipment supplier or system provider are very high, due to necessary capital investments in research and development (“R&D”) activities to manufacture specialised equipment or develop software system specifically for the palm oil milling activities. R&D activities could go on for years without any initial return. This forms a strong deterrent for new market players hoping to enter the market as a manufacturer of milling equipment or system provider, especially those without existing deep financial pockets.

***Technical and Design Expertise*** – An equipment supplier or system provider not only requires high capital investment but also the technical and design expertise to develop the product. In addition, technical expertise is also required to carry out the installation and integration of equipment and software system on palm oil milling site.

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## 5. INDUSTRY OVERVIEW (Cont'd)

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***Established Market Player Reputation*** – Equipment supplier and software provider for the palm oil milling activities are highly specialised segments. With the risk of equipment or software failure/ malfunction likely to pose significant financial losses to millers; therefore, palm oil millers often retain reputable suppliers/ providers and engage only market-renowned equipment suppliers and software providers. The expensive cost of specialised equipment and software system also lend to the wariness of millers in switching to other brands or suppliers.

### **Government Policy and Regulation**

There are no government policies specifically affecting the palm oil machineries sector or its market players. However, positive policies currently driving the Malaysian and Indonesian palm oil markets (as discussed in the respective overview of the Malaysian and Indonesian palm oil industry) have an indirect positive effect on the said market.

### **Substitute Products or Services**

There are no substitutes for the product and services offered by the palm oil milling machineries sector. The market plays a supporting role to the palm oil industry; they function as the supplier for all machineries, equipment, systems and services pertaining to palm oil milling.

### **Reliance and Vulnerability to Imports**

Malaysia and Indonesia are the world's largest producers of CPO, fulfilling up to 90.0 percent of the world's demand. The palm oil industries in both countries consist of the same industrial value chain from oil palm plantation, milling, refining, crushing and other downstream processing; therefore, the same production processes are applied throughout the value chain between Malaysia and Indonesia. In addition, the geographical proximity between Malaysia and Indonesia allows one's local players to have easy access into the other's market. Hence, market players such as Sime Darby and Wilmar are participants in both Indonesia's and Malaysia's palm oil industry.

The same trend can be found for the palm oil milling machineries sector. Market players in Malaysia's palm oil milling machineries sector can participate in Indonesia's market and vice versa. As a result, both local markets are vulnerable to the importation of palm oil milling machineries and services offered by the other.



## 5. INDUSTRY OVERVIEW (Cont'd)



### **Outlook of the Palm Oil Milling Machineries Sector in Malaysia and Indonesia**

Indonesia's and Malaysia's palm oil milling machineries sectors face positive outlooks throughout the forecast period. Growth is highly correlated with the performance of the palm oil industry in its respective countries. Together, Malaysia and Indonesia fulfill approximately 90.0 percent of the world's demand for palm oil. The palm oil industries in both countries are on a trajectory of long term growth, driven by the continuous global demand for palm oil. As a result, the palm oil industries in Malaysia and Indonesia are expanding its oil palm plantation and milling activities. These trends have a flow over effect on the palm oil milling machineries sector. As more palm oil milling activities take place, the demand for supporting products and services, such as those within the palm oil milling machineries sector will also be in higher demand. New palm oil mills would need to be set up to support the industry while more milling activities would encourage frequent maintenance work, hence, an increase market for the palm oil milling machineries.

On the supply side, improving palm oil milling technology and practices is expected to enhance milling activities. Due to the complexity and intensity of the milling process to extract CPO from FFB, the use of machineries is inevitable for the industry. Hence, government-backed agencies and corporation have undertaken various research and development to improve milling practices. Furthermore, there is a growing trend amongst palm oil millers to upgrade their mills with current technology to increase the efficiency and effectiveness of their milling operations.

Protégé Associates estimates the value of Malaysia's palm oil milling machineries sector at RM2.54 billion in 2014 and the sector is expected to grow at a CAGR of 11.4 percent during the forecast period to RM4.37 billion in 2019. Meanwhile, Protégé Associates estimates the value of Indonesia's palm oil milling machineries sector at IDR15.57 trillion in 2014 and the sector is expected to grow at a CAGR of 11.3 percent during the forecast period to IDR26.59 trillion in 2019.

5. INDUSTRY OVERVIEW (Cont'd)

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ASSOCIATES

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Protégé Associates has prepared this report in an independent and objective manner and has taken adequate care to ensure the accuracy and completeness of the report. We believe that this report presents a true and fair view of the industry within the boundaries and limitations of secondary statistics, primary research and continued industry movements. Our research has been conducted to present a view of the overall industry and may not necessarily reflect the performance of individual companies in this industry. We are not responsible for the decisions and/ or actions of the readers of this report. This report should also not be considered as a recommendation to buy or not to buy the shares of any company or companies.

Thank you.

Yours Sincerely,



SEOW CHEOW SENG

Managing Director

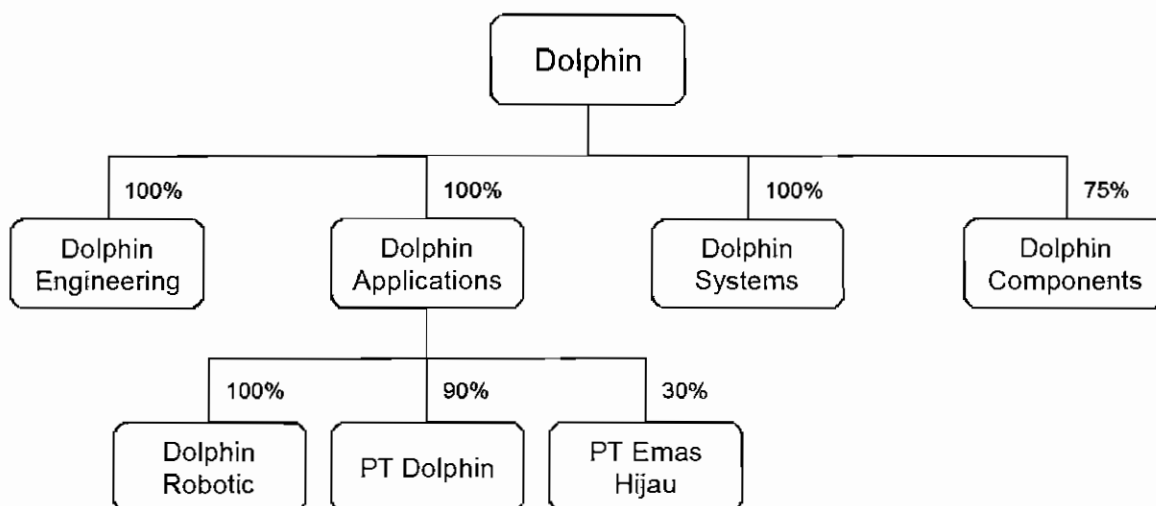
Protégé Associates Sdn Bhd

## 6. INFORMATION ON OUR GROUP

### 6.1 HISTORY AND BACKGROUND

Our Company was incorporated in Malaysia under the Act on 14 May 2012 as a public limited company to facilitate the Listing of our Group on the Main Market. We are principally an investment holding company while our subsidiaries are principally involved in the design, development, fabrication and sale of our products for the palm oil milling machineries sector in the palm oil industry.

Our Group's corporate structure is depicted as below:



Our history began with the incorporation of Dolphin Engineering on 14 October 1992 by our Promoters. We started out by providing customised automation systems and its related services to assembly plants of various industries, including the automotive and consumer electronics industries. For the automotive industry, we provided the automated systems for the manufacturing of car safety belts and visors. As for the consumer electronics industry, our Group manufactured the automated systems for the deburring of components used in washing machine assembly lines. In 1995, our Promoters decided to shift the focus of Dolphin Engineering to the palm oil milling machineries sector in the palm oil industry to carve a niche product offering for our Group due to the growing demand for process integration and automation solutions and services as POMs seek to enhance productivity, safety and efficiency.

In 1997, we were awarded with the Main Contractor Certification by the Ministry of Finance and Construction Industry Development Board under the category of the construction of buildings, civil construction and mechanical and engineering works, which allows our Group to participate in tenders or directly negotiate with our customers for the provision of our palm oil milling systems as the abovementioned certifications were amongst the pre-requisites required of a tender participant or systems provider by some of our customers.

Between 1995 and 2002, our Group had individually developed modular milling systems, such as the Loading Ramp Door System (introduced in 1997), the Dolphin Intelligent Screw Press System (introduced in 1998), Back Pressure Receiver Stabiliser System (introduced in 1998), Cage Feeding Door System (introduced in 2002), Cage Tipper System (introduced in 2002), Transfer Carriage System (introduced in 2002), Cage Indexer System (introduced in 2002), Cantilever Drawbridge with Articulated Indexer System (introduced in 2002) and Steriliser Door Control System (introduced in 2002), all of which we continue to offer today.

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**6. INFORMATION ON OUR GROUP (Cont'd)**

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In 2002, we secured our first tender contract to supply our Cage Indexer System, which automates the FFB sorting process and transfers FFB to the sterilisation station, at the 45 MT/H POM owned by Ladang Tai Tak (Kota Tinggi) Sdn Bhd, an oil palm plantation company and palm oil miller based in Kota Tinggi, Johor. The Cage Indexer System provides cost savings, while also reducing possible health and safety hazards as compared to conventional systems that were considered to be more laborious, dangerous and in-efficient.

In 2004, our Group further demonstrated our technical ability and competence by securing our first overseas project, namely the supply and installation of our Cage Indexer System at the 60 MT/H POM owned by Yuzana Co. Ltd. located in Kawthaung, Myanmar.

In 2006, our Group's QMS with regards to the systematic process flows and scalability of our products was accredited with the ISO 9001:2000 certification by TUV Nord Group, one of the world's largest inspections, certification and testing organisation. This certification accredits our Group for our ability "to design, supply, implement and maintain SCADA software systems, hydraulic and automation systems specifically to the palm oil industry".

In 2007, we witnessed the expansion of our Group when both Dolphin Applications and Dolphin Systems were established as part of our Group's initiative to re-organise our operations. Hence, the operations of our Group were streamlined such that Dolphin Applications was established to focus on electro-automation systems for the palm oil milling machineries sector while Dolphin Engineering focused on pneumatic and hydraulic systems. Further thereto, Dolphin Systems was established to focus on system hardware and software application solutions used in the palm oil milling machineries sector.

In 2008, Dolphin Systems was awarded the MSC Malaysia Status by MDeC for two key areas namely, the research, development and commercialisation of software solutions and provision of implementation, technical services and maintenance related to the software solutions. Dolphin Applications, on the other hand, was awarded the Pioneer Status Certification by MIDA for two key areas, namely, the integrated process control systems for POMs and process equipment and integrated process control systems.

In 2009, our Group's QMS were reassessed and accredited with the updated ISO 9001:2008 certification by TUV Nord Group. The updated ISO 9001:2008 certification was a testament of our Group's emphasis on meeting international standards. Our Group has proven to consistently provide products and services that meet applicable regulatory requirements and international standards.

In 2010, our Group expanded our reach to Latin America where we penetrated into Colombia with the provision of our Cage Indexer System to the 45 MT/H POM owned by Extractora La Gloria S.A.S. located in Magdalena, Colombia.

During 2010 as well, our Group widened our range of services to include provision of M&E solutions. Our decision to widen our range of services proved fruitful when we were awarded our first mechanical works contract, which was also our first contract in Indonesia, by PT Prima Mitrajaya Mandiri, a subsidiary of the MP Evans Group based in the United Kingdom, for its 60 MT/H POM in Kalimantan, Indonesia in October 2010.

## 6. INFORMATION ON OUR GROUP (Cont'd)

In 2011, our Group established PT Dolphin, our Group's first overseas subsidiary. Resulting thereto, PT Dolphin's office in Jakarta, Indonesia provided our Group with a presence in the Indonesian palm oil industry. This is in line with our Group's plans to penetrate into the Indonesia market, the fastest growing market for POM automation. Indonesia's oil palm plantation land bank, which is estimated at 9.2 million hectares of oil palm planted area as at 2013, is the largest in the world and is home to the highest numbers of POMs in the world estimated at 608 POMs as at 2010. Therefore, the establishment of our Indonesian subsidiary was a strategic decision to have a presence in the Indonesian market to cater to local needs.

In 2012, we secured our first project for the provision of turnkey solutions for the upgrade of a 40 MT/H POM to 60 MT/H located in Bau, Sarawak owned by Bau Palm Oil Mill Sdn Bhd, a company owned by SALCRA.

In 2013, together with UPM, we launched Robo-REST, an automated sterilisation system that surpasses the performance of conventional sterilisation systems. We are currently in the midst of preparing for the commercialisation of Robo-REST. Please refer to Section 6.15.3 of this Prospectus for further information on the Robo-REST.

Our Group's founders, Low Teck Yin and Hoh Yeong Cherng, have played a pivotal role in driving the growth of our Group. From the humble beginnings of providing customised automation systems and its related services to assembly plants of various industries including the automotive and consumer electronics industry, our Group has today established ourselves as a provider of products, services, and solutions for the palm oil milling machineries sector in the palm oil industry. We have established offices in Malaysia and Indonesia. We have also business presence in the other South East Asian countries as well as expanded our reach to the Latin America. Overall, since our inception, our Group has exported our products to palm oil millers based in 6 different countries around the world, namely Indonesia, Thailand, Myanmar, Papua New Guinea, India and Colombia. Since then and up to the LPD, we have provided our milling systems and solutions to 196 POMs, which are located mainly in Malaysia and Indonesia. Please refer to Section 6.7 of this Prospectus for further information on our principal markets during the Period under Review.

### 6.2 KEY ACHIEVEMENTS AND MILESTONES

Our key achievements and milestones since inception are summarised as follows:

Year	Key achievements and milestones
1992	Dolphin Engineering was founded by our Promoters
1995	Dolphin Engineering shifted its focus to the palm oil milling sector as a niche, tapping on the growing demand for process integration and automation solutions and services
1997	Awarded Main Contractor Certification by the Ministry of Finance and the Construction Industry Development Board under the category of the construction of buildings, civil construction and mechanical and engineering works, which enabled us to tender directly for projects as well as to provide us with the opportunity to take on higher-value projects
2002	Secured first fully automated POM contract to supply and install our product at the 45 MT/H POM owned by Ladang Tai Tak (Kota Tinggi) Sdn Bhd located in Kota Tinggi, Johor
2004	Secured first overseas POM contract to supply and install our product at a 60 MT/H POM owned by Yuzana Co. Ltd. located in Kawthaung, Myanmar
2006	Awarded the ISO 9001:2000 certification by the TUV Nord Group

**6. INFORMATION ON OUR GROUP (Cont'd)**

Year	Key achievements and milestones
2007	Dolphin Applications and Dolphin Systems were established to cater to the needs of our customers for more efficient response regarding specific areas of their requirements
2008	Dolphin Systems was awarded the MSC Malaysia Status by MDeC
2008	Dolphin Applications was awarded the Pioneer Status Certification by MIDA
2009	Our Group's quality management systems was reassessed and accredited with the updated ISO 9001:2008 certification from TUV Nord Group
2010	Penetrated the Latin American market, namely Colombia by securing orders for our products
2010	Expanded our range of services to include provision of M&E solutions. Managed to secure our first mechanical works contract from a subsidiary of the MP Evans Group for their Indonesian mill
2011	Established PT Dolphin, our first overseas subsidiary in Jakarta, Indonesia, to facilitate the penetration and service of the Indonesian palm oil milling machineries sector
2012	Awarded first project for the provision of turnkey solutions for the upgrade of a 40 MT/H POM located in Bau, Sarawak owned by Bau Palm Oil Mill Sdn Bhd, a company owned by SALCRA, to a 60 MT/H POM
2013	Launched "Robo-REST"

**6.3 INFORMATION ON THE LISTING SCHEME**

In conjunction with and as an integral part of the listing of and quotation for the entire enlarged issued and paid-up share capital of our Company on the Main Market, the listing scheme involves the following:

- (i) Acquisitions;
- (ii) Public Issue; and
- (iii) Listing.

The above are inter-conditional and are viewed as one exercise undertaken to facilitate the Listing of our Company.

**6.3.1 Acquisitions**

In preparation of our Listing, we have undertaken the Acquisitions wherein our Company had entered into 4 separate conditional sale and purchase agreements to acquire the respective equity interest in Dolphin Applications, Dolphin Engineering, Dolphin Systems and Dolphin Components respectively. The Acquisitions have been of related companies to create a holding company structure with subsidiaries focused on specific elements of serving the palm oil milling machineries sector in the palm oil industry and its customers.

The new Shares issued pursuant to the Acquisitions shall rank *pari passu* in all respects with our existing issued and paid-up Shares including the voting rights and will be entitled to all rights and dividends and other distributions, the entitlement date of which are subsequent thereof.

**6. INFORMATION ON OUR GROUP (Cont'd)****(i) Acquisition of Dolphin Applications**

On 30 May 2014, Dolphin entered into a conditional sale and purchase agreement with the vendors of Dolphin Applications, being Low Teck Yin, Hoh Yeong Cherng, Lim Kwee Gee, Loh Peng Chai, Lee Ah Chuan, Chong Han Fung, Albert Chan Kin Soong and Pah Wee Kiat, to acquire the entire issued and paid-up share capital of Dolphin Applications of RM2,666,666 comprising 2,666,666 ordinary shares of RM1.00 each for a purchase consideration of RM28,100,000, which was wholly satisfied by the issuance of 140,500,000 new Shares at an issue price of RM0.20 per Share. As at 30 May 2014, the shareholders of Dolphin Applications and their respective shareholdings are as follows:

Name of shareholder	<-----Direct----->		<-----Indirect----->	
	No. of shares	%	No. of shares	%
Low Teck Yin	1,000,000	37.50	-	-
Hoh Yeong Cherng	1,000,000	37.50	-	-
Lim Kwee Gee	128,889	4.83	-	-
Loh Peng Chai	128,889	4.83	-	-
Chong Han Fung	128,889	4.83	-	-
Albert Chan Kin Soong	128,889	4.83	-	-
Lee Ah Chuan	76,190	2.87	-	-
Pah Wee Kiat	74,920	2.81	-	-

The purchase consideration of Dolphin Applications of RM28,100,000 was arrived at on a willing-buyer willing-seller basis, after taking into consideration the NA position of Dolphin Applications as at 31 December 2013 of RM26,787,114. The acquisition was completed on 31 March 2015 and Dolphin Applications became a wholly-owned subsidiary of our Company.

**(ii) Acquisition of Dolphin Engineering**

On 30 May 2014, Dolphin entered into a conditional sale and purchase agreement with the vendors of Dolphin Engineering, being Low Teck Yin, Hoh Yeong Cherng, Lim Kwee Gee, Loh Peng Chai, Lee Ah Chuan, Chong Han Fung, Albert Chan Kin Soong and Pah Wee Kiat, to acquire the entire issued and paid-up share capital of Dolphin Engineering of RM2,000,000 comprising 2,000,000 ordinary shares of RM1.00 each for a purchase consideration of RM5,100,000, which was wholly satisfied by the issuance of 25,500,000 new Shares at an issue price of RM0.20 per Share. As at 30 May 2014, the shareholders of Dolphin Engineering and their respective shareholdings are as follows:

Name of shareholder	<-----Direct----->		<-----Indirect----->	
	No. of shares	%	No. of shares	%
Hoh Yeong Cherng	833,334	41.67	-	-
Low Teck Yin	833,333	41.67	-	-
Lim Kwee Gee	64,444	3.22	-	-
Loh Peng Chai	64,444	3.22	-	-
Chong Han Fung	64,444	3.22	-	-
Albert Chan Kin Soong	64,444	3.22	-	-
Lee Ah Chuan	38,095	1.91	-	-
Pah Wee Kiat	37,462	1.87	-	-

The purchase consideration of Dolphin Engineering of RM5,100,000 was arrived at on a willing-buyer willing-seller basis, after taking into consideration the NA position of Dolphin Engineering as at 31 December 2013 of RM7,651,989. The acquisition was completed on 31 March 2015 and Dolphin Engineering became a wholly-owned subsidiary of our Company.

**6. INFORMATION ON OUR GROUP (Cont'd)****(iii) Acquisition of Dolphin Systems**

On 30 May 2014, Dolphin entered into a conditional sale and purchase agreement with the vendors of Dolphin Systems, being Hoh Yeong Cherng and Low Teck Yin, to acquire the entire issued and paid-up share capital of Dolphin Systems of RM500,000 comprising 500,000 ordinary shares of RM1.00 each for a cash consideration of RM65,000. As at 30 May 2014, the shareholders of Dolphin Systems and their respective shareholdings are as follows:

Name of shareholder	<-----Direct----->		<-----Indirect----->	
	No. of shares	%	No. of shares	%
Hoh Yeong Cherng	350,000	70.00	-	-
Low Teck Yin	150,000	30.00	-	-

The purchase consideration of Dolphin Systems of RM65,000 was arrived at on a willing-buyer willing-seller basis, after taking into consideration the NA position of Dolphin Systems as at 31 December 2013 of RM64,793. The acquisition was completed on 31 March 2015 and Dolphin Systems became a wholly-owned subsidiary of our Company.

**(iv) Acquisition of Dolphin Components**

On 30 May 2014, Dolphin entered into a conditional sale and purchase agreement with the vendors of Dolphin Components, being Low Teck Yin and Hoh Yeong Cherng, to acquire 75% or 75,000 ordinary shares of RM1.00 each of the issued and paid-up share capital of Dolphin Components consisting of RM100,000 comprising 100,000 ordinary shares of RM1.00 each for a cash consideration of RM65,000. As at 30 May 2014, the shareholders of Dolphin Components and their respective shareholdings are as follows:

Name of shareholder	<-----Direct----->		<-----Indirect----->	
	No. of shares	%	No. of shares	%
Low Teck Yin	37,500	37.50	-	-
Hoh Yeong Cherng	37,500	37.50	-	-
Brian Lim Eu Kheng	25,000	25.00	-	-

The purchase consideration of Dolphin Components of RM65,000 was arrived at on a willing-buyer willing-seller basis, after taking into consideration the net liability position of Dolphin Components as at 31 December 2013 of RM11,157, the subsequent cash injection of RM99,900 by the shareholders of Dolphin Components on 2 April 2014 and the future earnings contribution to the Group by Dolphin Components from its intended business activity. The acquisition was completed on 31 March 2015 and Dolphin Components became a 75% owned subsidiary of our Company.

**6.3.2 Public Issue**

To facilitate the listing of and quotation for our Company's entire enlarged issued and paid-up share capital on the Main Market and to comply with the Listing Requirements with regard to the shareholding spread, our Company shall undertake the Public Issue of 46,000,000 IPO Shares at the IPO Price in the following manner:

**(i) Malaysian Public**

15,000,000 IPO Shares representing 6.76% of our enlarged issued and paid-up share capital will be made available for application by the Malaysian Public investors through a balloting process, of which at least 50% shall be set aside for Bumiputera investors including individuals, companies, societies, co-operatives and institutions.



**6. INFORMATION ON OUR GROUP (Cont'd)****(ii) Eligible Persons**

8,250,000 IPO Shares, representing approximately 3.72% of our enlarged issued and paid-up share capital will be made available for application by the Eligible Persons.

**(iii) Selected eligible investors by way of private placement**

22,750,000 IPO Shares, representing 10.25% of our enlarged issued and paid-up share capital will be made available for application by way of private placement of which 2,500,000 IPO Shares, representing 1.13% of our enlarged issued and paid-up share capital, will be made available to selected eligible investors and 20,250,000 IPO Shares, representing 9.12% of our enlarged issued and paid-up share capital, will be made available to Bumiputera investors approved by the MITI.

Upon completion of the Public Issue, our Company's issued and paid-up share capital will be further increased from RM35,200,002 to RM44,400,002.

**6.3.3 Listing on Bursa Securities**

Our Company will seek for the admission and listing of and quotation for our entire enlarged issued and paid-up share capital of RM44,400,002 comprising 222,000,010 Shares on the Main Market.

**6.4 SHARE CAPITAL**

As at the LPD, the authorised share capital of our Company was RM100,000,000 comprising 500,000,000 ordinary shares of RM0.20 each. The existing issued and paid-up share capital of our Company is RM35,200,002 comprising 176,000,010 Shares.

The changes in the issued and paid-up share capital of our Company since incorporation are as follows:

Date of allotment	No. of shares allotted	Par value RM	Consideration	Cumulative issued and paid-up share capital RM
14.05.2012	20	0.10	Cash	2
03.07.2013	5,000,000	0.10	Cash	500,002
21.11.2013	10,000,000	0.10	Cash	1,500,002
12.03.2014	-	0.20	Consolidation of shares	1,500,002
28.05.2014	2,500,000	0.20	Cash	2,000,002
31.03.2015	166,000,000	0.20	Other than cash (Acquisition of Dolphin Applications and Dolphin Engineering)	35,200,002

As at the LPD, there are no outstanding warrants, options, convertible securities or uncalled capital in Dolphin. In addition, there are no discounts, special terms or instalment payment terms applicable to the payment of the consideration for the allotment.

## 6. INFORMATION ON OUR GROUP (Cont'd)

### 6.5 INFORMATION ON OUR SUBSIDIARIES AND ASSOCIATE COMPANY

Dolphin has 6 subsidiaries, each relating to a particular aspect of servicing the palm oil milling machineries sector in the palm oil industry and its customers, and an associate company. The details on each of our subsidiaries and our associate company as at the LPD are set out below:

#### 6.5.1 Dolphin Applications

Dolphin Applications was incorporated in Malaysia as a private limited company under the Act on 10 October 2007 under its present name. Dolphin Applications is principally involved in the sale, design, engineering, development and integration of electro-automation and related systems and products which are sold under the "Dolphin" brand for the palm oil milling machineries sector and commenced its business on 10 October 2007.

The present authorised share capital of Dolphin Applications is RM5,000,000 comprising 5,000,000 ordinary shares of RM1.00 each. The issued and paid-up share capital is RM2,666,666 comprising 2,666,666 ordinary shares of RM1.00 each.

Details of the changes in the issued and fully paid-up share capital of Dolphin Applications for the past 4 years preceding the LPD are as follows:

Date of allotment	No. of shares allotted	Par value RM	Consideration	Cumulative issued and paid-up share capital RM
As at 01.01.2011	-	-	-	750,000
10.05.2011	1,250,000	1.00	Bonus issue	2,000,000
13.04.2012	666,666	1.00	Cash	2,666,666

As at the LPD, there are no outstanding warrants, options, convertible securities or uncalled capital in Dolphin Applications. In addition, there are no discounts, special terms or instalment payment terms applicable to the payment of the consideration for the allotment.

As at the LPD, Dolphin Applications has two subsidiaries, namely PT Dolphin and Dolphin Robotic and an associate company, PT Emas Hijau.

#### 6.5.2 Dolphin Engineering

Dolphin Engineering was incorporated in Malaysia as a private limited company under the Act on 14 October 1992 under its present name. Dolphin Engineering is principally involved in the sale, design, engineering, development and integration of pneumatic, hydraulic and related systems and products which are sold under the "Dolphin" brand for the palm oil milling machineries sector and commenced its business on 14 October 1992.

The present authorised share capital of Dolphin Engineering is RM5,000,000 comprising 5,000,000 ordinary shares of RM1.00 each. The issued and paid-up share capital is RM2,000,000 comprising 2,000,000 ordinary shares of RM1.00 each.

**6. INFORMATION ON OUR GROUP (Cont'd)**

Details of the changes in the issued and fully paid-up share capital of Dolphin Engineering for the past 4 years preceding the LPD are as follows:

Date of allotment	No. of shares allotted	Par value RM	Consideration	Cumulative issued and paid-up share capital RM
As at 01.01.2011	-	-	-	1,000,000
13.04.2012	333,333	1.00	Cash	1,333,333
25.10.2012	666,667	1.00	Cash	2,000,000

As at the LPD, there are no outstanding warrants, options, convertible securities or uncalled capital in Dolphin Engineering. In addition, there are no discounts, special terms or instalment payment terms applicable to the payment of the consideration for the allotment.

As at the LPD, Dolphin Engineering does not have any subsidiary and associated companies.

**6.5.3 Dolphin Systems**

Dolphin Systems was incorporated in Malaysia as a private limited company under the Act on 10 October 2007 under its present name. Dolphin Systems is principally involved in the sale, design, programming and development of system hardware and software application solutions which are sold under the "Dolphin" brand for the palm oil milling machineries sector and commenced its business on 10 October 2007.

The present authorised share capital of Dolphin Systems is RM500,000 comprising 500,000 ordinary shares of RM1.00 each. The issued and paid-up share capital is RM500,000 comprising 500,000 ordinary shares of RM1.00 each.

Details of the changes in the issued and fully paid-up share capital of Dolphin Systems for the past 4 years preceding the LPD are as follows:

Date of allotment	No. of shares allotted	Par value RM	Consideration	Cumulative issued and paid-up share capital RM
As at 01.01.2011	-	-	-	100,000
08.06.2012	400,000	1.00	Cash	500,000

As at the LPD, there are no outstanding warrants, options, convertible securities or uncalled capital in Dolphin Systems. In addition, there are no discounts, special terms or instalment payment terms applicable to the payment of the consideration for the allotment.

As at the LPD, Dolphin Systems does not have any subsidiary and associated companies.

**6.5.4 Dolphin Components**

Dolphin Components was incorporated in Malaysia as a private limited company under the Act on 15 September 2009 under the name Dolphin Universe Sdn Bhd. Dolphin Universe Sdn Bhd subsequently changed its name to Dolphin Components on 2 January 2014. Dolphin Components is principally involved in the sale and trading of components and consumable parts for the palm oil milling machineries sector and commenced its business on 2 January 2014.

**6. INFORMATION ON OUR GROUP (Cont'd)**

The present authorised share capital of Dolphin Components is RM100,000 comprising 100,000 ordinary shares of RM1.00 each. The issued and paid-up share capital is RM100,000 comprising 100,000 ordinary shares of RM1.00 each.

Details of the changes in the issued and fully paid-up share capital of Dolphin Components for the past 4 years preceding the LPD are as follows:

Date of allotment	No. of shares allotted	Par value RM	Consideration	Cumulative issued and paid-up share capital RM
As at 01.01.2011	-	-	-	100
02.04.2014	99,900	1.00	Cash	100,000

As at the LPD, there are no outstanding warrants, options, convertible securities or uncalled capital in Dolphin Components. In addition, there are no discounts, special terms or instalment payment terms applicable to the payment of the consideration for the allotment.

As at the LPD, Dolphin Components does not have any subsidiary and associated companies.

**6.5.5 PT Dolphin**

PT Dolphin was established by the Deed of Establishment No. 43 dated 16 May 2011, which deed has been approved by the Ministry of Law and Human Rights by virtue of Decree No. AHU-30188.AH.01.01.Tahun 2011, and was registered in the Company Registry No. AHU-0048645.AH.01.09.Tahun 2011 dated 16 June 2011, in Indonesia as an Indonesian limited company domiciled in Jakarta under the Law of the Republic of Indonesia No. 25 of Year 2007 concerning investment under its present name. PT Dolphin is principally involved in the sales, marketing and installation of the Group's customised electro-automation, pneumatic and hydraulic systems in Indonesia and commenced its business on 16 June 2011.

The present authorised share capital of PT Dolphin is USD1,750,000 comprising 1,750,000 ordinary shares of USD1.00 each. The issued and paid-up share capital is USD1,750,000 comprising 1,750,000 ordinary shares of USD1.00 each.

Details of the changes in the issued and fully paid-up share capital of PT Dolphin since its incorporation until the LPD are as follows:

Date of allotment	No. of shares allotted	Par value USD	Consideration	Cumulative issued and paid-up share capital USD
16.06.2011	150,000	1.00	Subscribers' shares	150,000
27.11.2013	1,600,000	1.00	Cash	1,750,000

As at the LPD, there are no outstanding warrants, options, convertible securities or uncalled capital in PT Dolphin. In addition, there are no discounts, special terms or instalment payment terms applicable to the payment of the consideration for the allotment.

As at the LPD, PT Dolphin does not have any subsidiary and associated companies.

## 6. INFORMATION ON OUR GROUP (Cont'd)

### 6.5.6 Dolphin Robotic

Dolphin Robotic was incorporated in Malaysia as a private limited company under the Act on 5 May 2014 under its present name. Dolphin Robotic is principally involved in the design, engineering and development of palm FFB sterilisation and related system, components and parts. Dolphin Robotic commenced its business on 5 May 2014.

The present authorised share capital of Dolphin Robotic is RM400,000 comprising 400,000 ordinary shares of RM1.00 each. The issued and paid-up share capital is RM2 comprising 2 ordinary shares of RM1.00 each.

There has been no change in the issued and paid-up share capital of Dolphin Robotic since its incorporation until the LPD.

As at the LPD, there are no outstanding warrants, options, convertible securities or uncalled capital in Dolphin Robotic. In addition, there are no discounts, special terms or instalment payment terms applicable to the payment of the consideration for the allotment.

As at the LPD, Dolphin Robotic does not have any subsidiary and associated companies.

### 6.5.7 PT Emas Hijau

PT Emas Hijau was established by the Deed of Establishment No. 37 dated 20 November 2014, which deed has been approved by the Ministry of Law and Human Rights by virtue of Decree No. AHU-0002071.AH.01.01.Tahun 2015, and was registered in the Company Registry No. AHU-0005196.AH.01.11.Tahun 2015 dated 19 January 2015, in Indonesia as an Indonesian limited company domiciled in Jakarta under the Law of the Republic of Indonesia No. 25 of Year 2007 concerning investment under its present name. PT Emas Hijau is currently dormant and is intended to be principally involved in the building, operating and managing of POMs to be located in Indonesia.

The present authorised share capital of PT Emas Hijau is IDR10,000,000,000 comprising 10,000,000 ordinary shares of IDR1,000 each. The issued and paid-up share capital is IDR2,500,000,000 comprising 2,500,000 ordinary shares of IDR1,000 each.

As at the LPD, there are no outstanding warrants, options, convertible securities or uncalled capital in PT Emas Hijau. In addition, there are no discounts, special terms or instalment payment terms applicable to the payment of the consideration for the allotment.

As at the LPD, PT Emas Hijau does not have any subsidiary and associated companies.

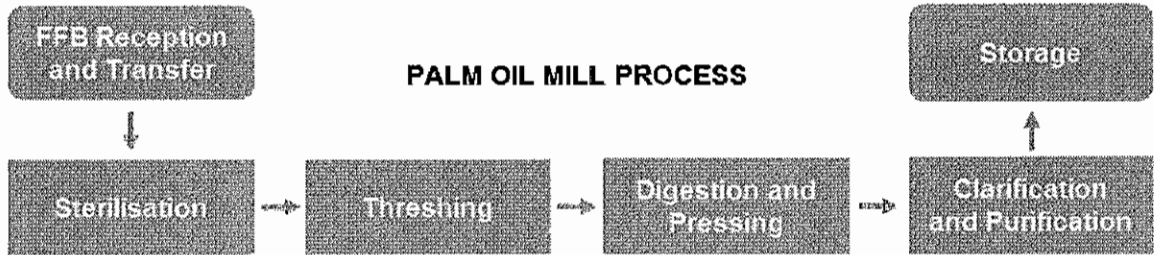
## 6.6 BUSINESS OVERVIEW

Our Group, through our subsidiaries, are principally involved in the design, development, fabrication and sale of our products together with the corresponding hardware and software solutions for the palm oil milling machineries sector in the palm oil industry. We provide products and related services for palm oil milling automation and control as well as M&E and/or full turnkey solutions in the construction of palm oil mills. Our products for automation and control can be purchased individually, or combined to form an integrated system, for use in the palm oil milling process.

Our Group's core competency and competitive edge is in having the technology and know-how to provide POMs with products to form wholly integrated automation and control systems that offer improved efficiency, productivity and safety.

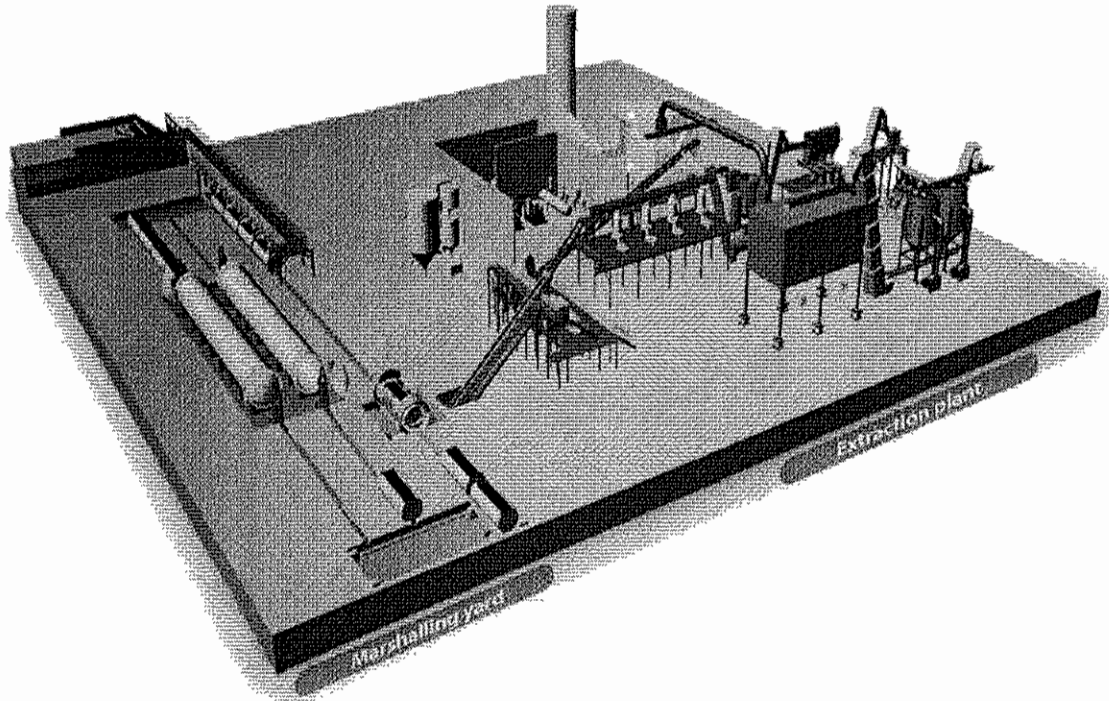
## 6. INFORMATION ON OUR GROUP (Cont'd)

The major processes involved in palm oil milling can be illustrated as follows:



Please refer to Section 5 of this Prospectus for further information on the palm oil milling process.

A typical POM layout can be divided into 2 main sections, namely the marshalling yard and extraction plant where the palm oil milling processes are carried out, as shown in the diagram below:



Our products for automation and control focus primarily on 2 key areas, namely:

- (i) material handling in the marshalling yard; and
- (ii) process automation and control of the sterilisation, digestion and pressing and clarification processes.

## 6. INFORMATION ON OUR GROUP (Cont'd)

Material handling is an important field in the palm oil milling process as it is used throughout the entire process from the FFB reception at the FFB ramp area to the final product storage yard. Conventionally, material handling activities are labour-intensive, hazardous and prone to accidents. With oil palm plantations generating large volumes of fruits, the processing of large quantities of fruits requires a greater degree of mechanisation and automated material handling. The adoption of Dolphin's products for automation in material handling activities enable simple and guided operational sequence that significantly reduces the dependence on labour-intensive operation. Coupled with a remote operation option, our products enable the process to be operated and monitored from a safe distance, which enhances safety and reduces the risks of errors and accidents.

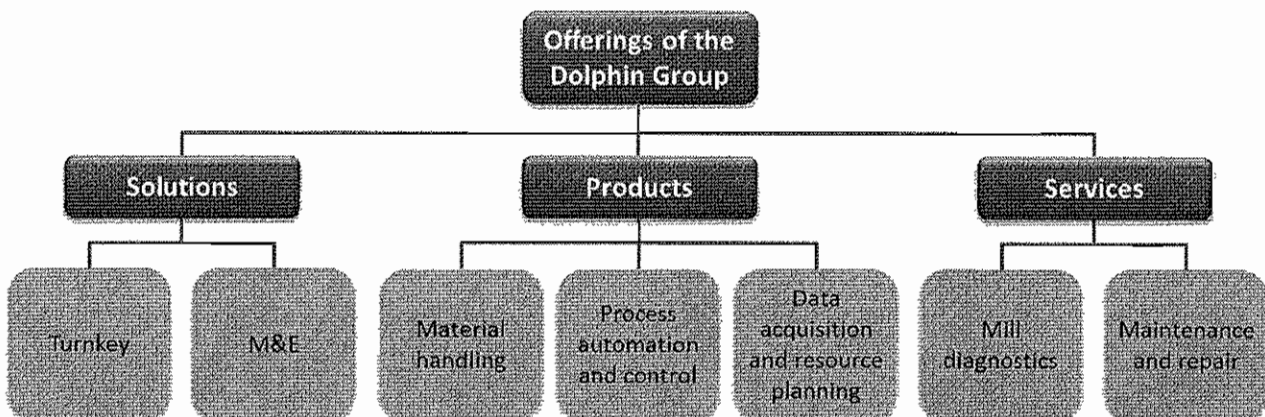
Process automation and control is a statistics and engineering discipline for maintaining the output of a specific process within a desired range. In the absence of process automation and control, plant operators have to manually monitor performance results and the quality of outputs to determine the best settings on which to run a production process. Dolphin's products for process automation and control simplify this with the help of sensors and instruments installed strategically at key production processes that collect various real-time data. The stored information is then analysed and automatically adjusted via the software installed.

### 6.6.1 Our Products, Solutions and Services

We design, develop, integrate and support technological products, services and solutions based on the needs and technical requirements of our customers in the palm oil industry. Our product development focuses on key themes that improve palm oil yield, improve mill safety and overall customer economics. Currently, the palm oil milling machineries sector is generally less automated with little sophisticated process controls than in many other global process industries. This continues to create innovation opportunities for us. The 5 key principals which our Group focuses on when designing and developing our products are as follows:

- (i) automate key functions for enhanced safety and efficiency;
- (ii) reduce unplanned maintenance and operation down-time;
- (iii) optimise palm oil recovery and reduce wastage;
- (iv) real-time online monitoring and troubleshooting to identify and rectify process issues quickly; and
- (v) inception and adoption of evolving technology.

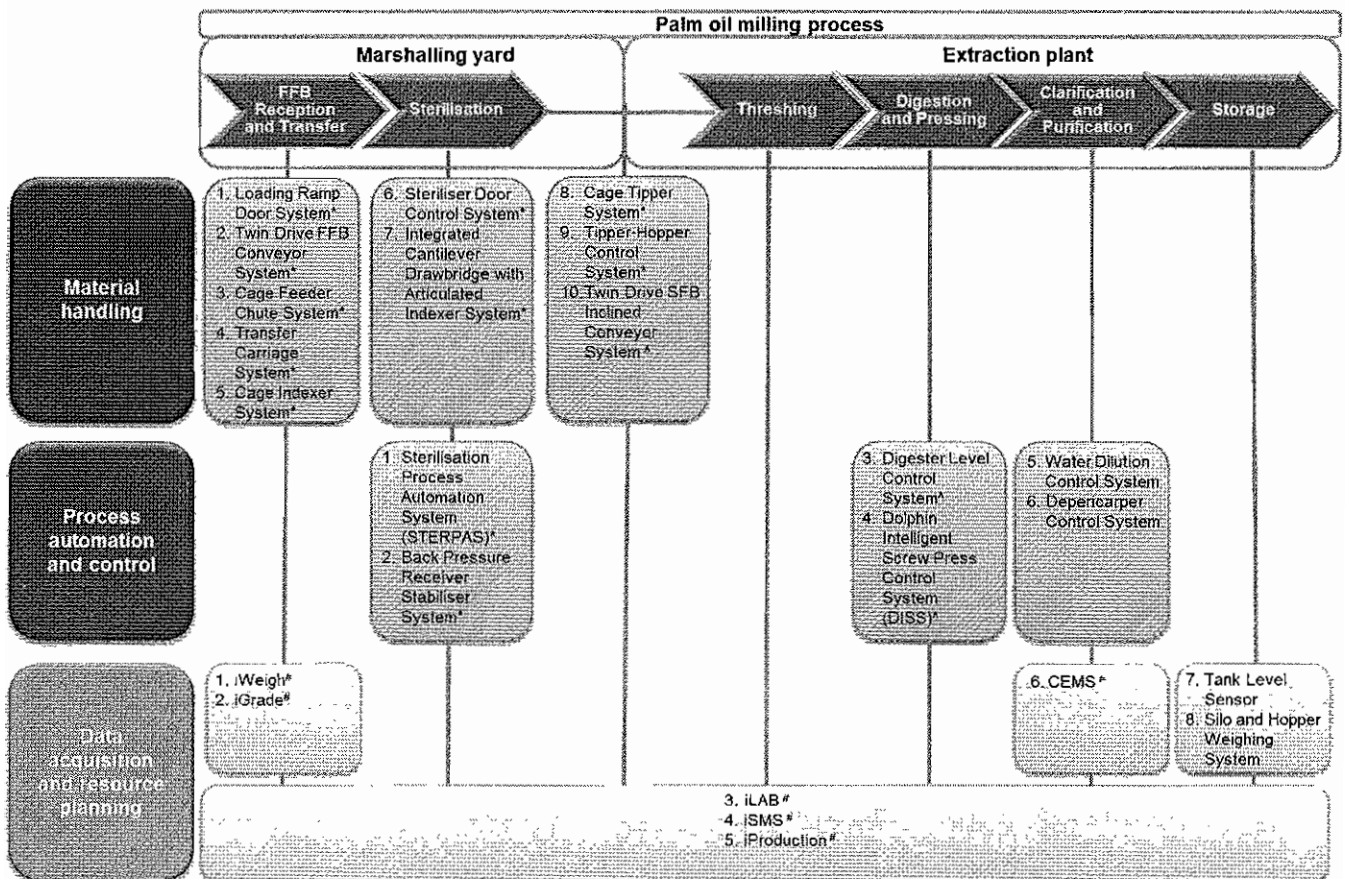
The offerings of our Group are as follows:



## 6. INFORMATION ON OUR GROUP (Cont'd)

The revenue generated from our Group's turnkey solutions and M&E solutions are recorded by our Group under the provision of solutions revenue segment while the products offered by our Group can be categorised under the revenue segments of sale of milling systems or sale of milling software. The remaining services offered by our Group as depicted in the above diagram is categorised under the revenue segment of supply of parts and maintenance services. Please refer to Section 10.2 of this Prospectus for further information our revenue recognition.

Our individual products and where it functions within the palm oil milling process are as follows:



**Notes:**

- \* May be integrated to form our Automated Cage Handling System;
- ^ May be integrated to form our Automated Production Throughput Synchronisation Control System; and
- # May be combined to form our Intelligent Process Automation & Data Acquisition System (iPADAS).

All our individual systems in the diagram above can be sold separately/individually or combined to form our integrated systems.

Further details of our products are set out in the ensuing sections.

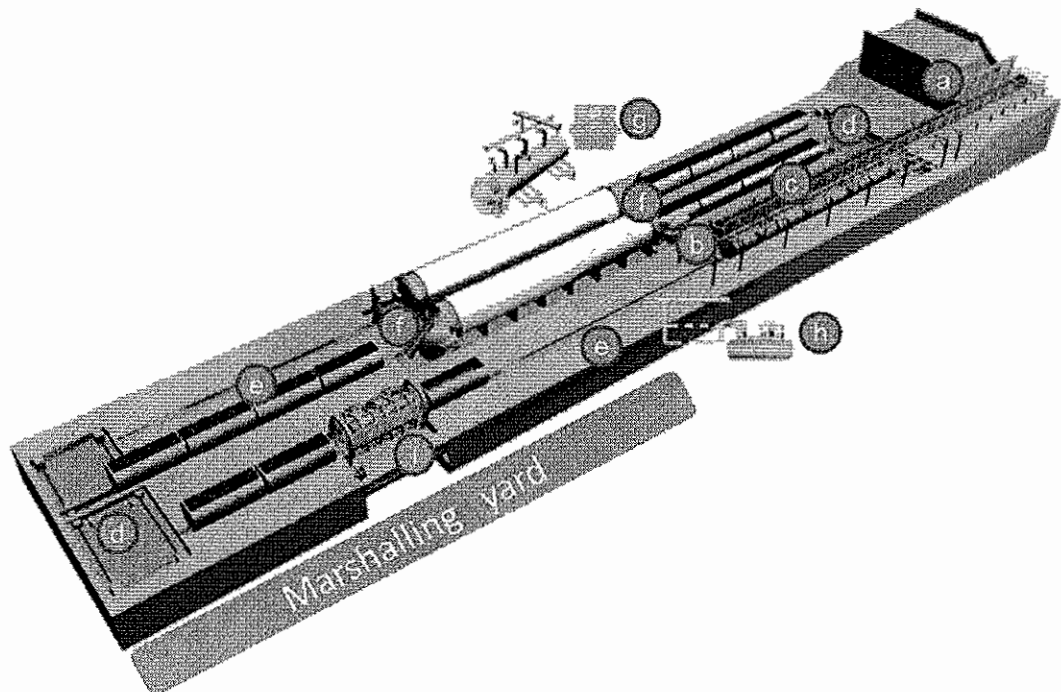


## 6. INFORMATION ON OUR GROUP (Cont'd)

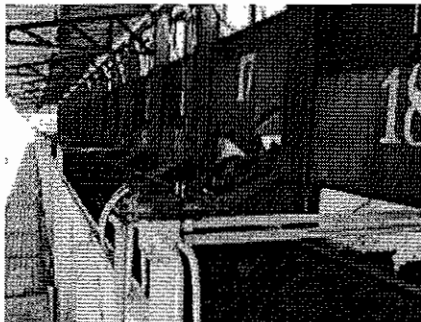
### 6.6.1.1 Our Products

#### (i) Automated Cage Handling System

Our Automated Cage Handling System is an integrated material handling system that is designed and developed to manage the manoeuvring of cages in the marshalling yard of the POM with greater safety, productivity and efficiency. The marshalling yard is where the FFB is transferred from the loading dock and fed into the cages as a mode of mobilisation via a series of conveyors and feeding door systems before being put through the sterilisation process. At the end of the marshalling yard, SFB are discharged from the cages at the tipping station. The individual products that work within the Dolphin's Automated Cage Handling System located in the marshalling yard are depicted and described as follows:



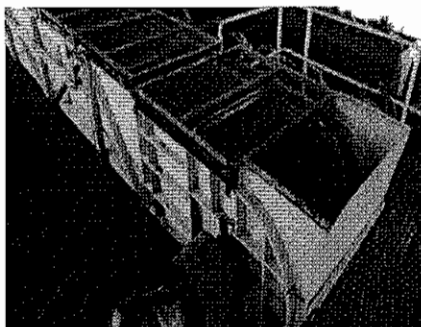
#### (a) Loading Ramp Door System



Our Loading Ramp Door System is a hydraulic dual pump system which allows for the concurrent operation of multiple doors installed in the FFB reception station to regulate the loading of FFB from the reception station onto the FFB conveyor. Its function is to ensure that FFB are evenly loaded onto the FFB conveyor.

## 6. INFORMATION ON OUR GROUP (Cont'd)

### (b) Twin Drive FFB Conveyor System



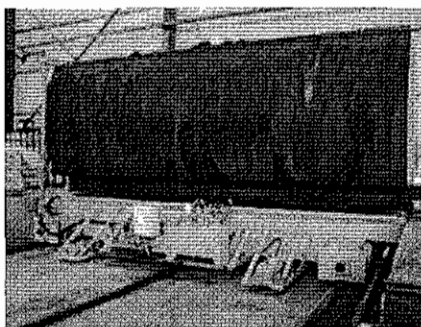
Our Twin Drive FFB Conveyor System is installed to operate a conveyor belt used for the transfer of FFB from the FFB reception station to the cages. It is driven by 2 heavy duty hydraulic hybrid motors, coupled to the left and right side of a conveyor drive shaft. It provides equal and balanced force distribution at each side of the conveyor chain, effectively prolonging its life span. This system regulates the transfer of FFB to the Cage Feeder Chute System.

### (c) Cage Feeder Chute System



Our Cage Feeder Chute System is used for the feeding of FFB into the cages via hydraulically controlled sliding chute doors at the discharge opening of the chute. This system regulates the quantity and even distribution of FFB loaded into the cages.

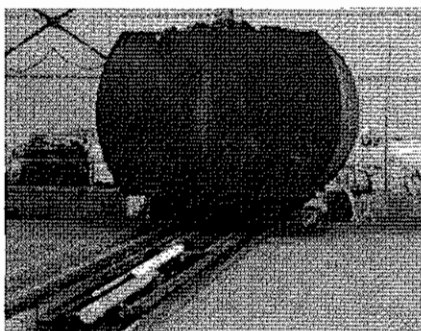
### (d) Transfer Carriage System



Our Transfer Carriage System is used to automatically transfer the FFB loaded cages from the loading line to the sterilisation line by shifting the cages back and forth along the transfer carriage pit. Upon reaching the sterilisation line, this system will initiate a self-locking mechanism which automatically aligns the cage with the sterilisation track.

Our Transfer Carriage Systems comes with a dual speed movement system which allows the cages to be moved at a higher speed between lines which automatically slows down to ensure precise final track positioning and stopping. This system reduces the maintenance required on the cages as it eliminates the knocking of cages between each other, which are commonly found in conventional manual systems.

### (e) Cage Indexer System



Our Cage Indexer System is a system which mobilises cages along the loading line and sterilisation line. This system has an automatic self-latching and unlatching mechanism with integrated sensors for the precision positioning of cages. Our Cage Indexer System, which enhances safety, replaces the conventional winch and bollard system, thus eliminating the need for manual handling.

**6. INFORMATION ON OUR GROUP (Cont'd)**

- (f) Steriliser Door Control System and Integrated Cantilever Drawbridge with Articulated Indexer System

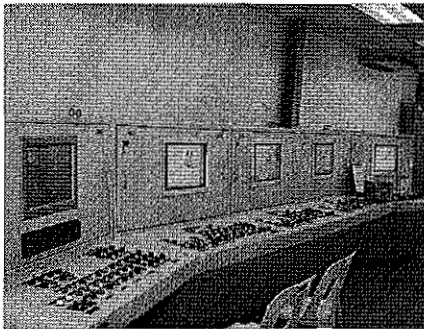


Our Steriliser Door Control System is designed to replace the manual operation of the steriliser door while our Integrated Cantilever Drawbridge with Articulated Indexer System allows the loaded FFB cages to be mobilised into the steriliser. This process is smoothen by the Articulated Indexer System which acts as the mechanism which precisely loads and unloads the cages from the steriliser.

Upon arrival of the cages at the entry point of the steriliser, our Steriliser Door Control System automatically opens the steriliser door. The Integrated Cantilever Drawbridge with Articulated Indexer System then pushes the loaded FFB cages into the steriliser. The Steriliser Door Control System then automatically closes and locks the steriliser door. When the sterilisation process is completed, the Steriliser Door Control System then automatically unlocks and opens the steriliser door at the exit point to allow the loaded SFB cages in the steriliser to be automatically transferred to the tipping station via the Transfer Carriage System.

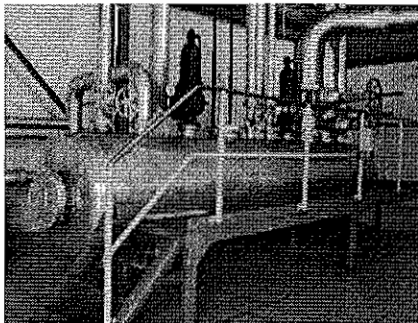
This system eliminates the need for manual operators to be in close proximity to the steriliser and thus enhances safety.

- (g) Sterilisation Process Automation System (STERPAS)



Our STERPAS is a control and monitoring system that ensures the consistent sterilisation of FFB via an automated pressure and time application. The system provides ease of configuration, accurate data acquisition and display, alarm monitoring and end-of-cycle reporting that ensures optimal sterilisation of FFB of various grades.

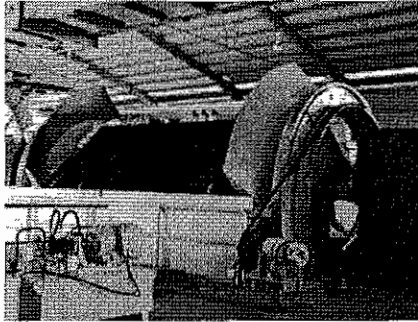
- (h) Back Pressure Receiver Stabiliser System



Our Back Pressure Receiver Stabiliser System is designed to automatically provide sufficient and consistent flow of steam for the sterilisation process. It automatically regulates the desired set-point pressure to ensure the complete sterilisation of FFB.

**6. INFORMATION ON OUR GROUP (Cont'd)**

(i) Cage Tipper System with Tipper-Hopper Control System



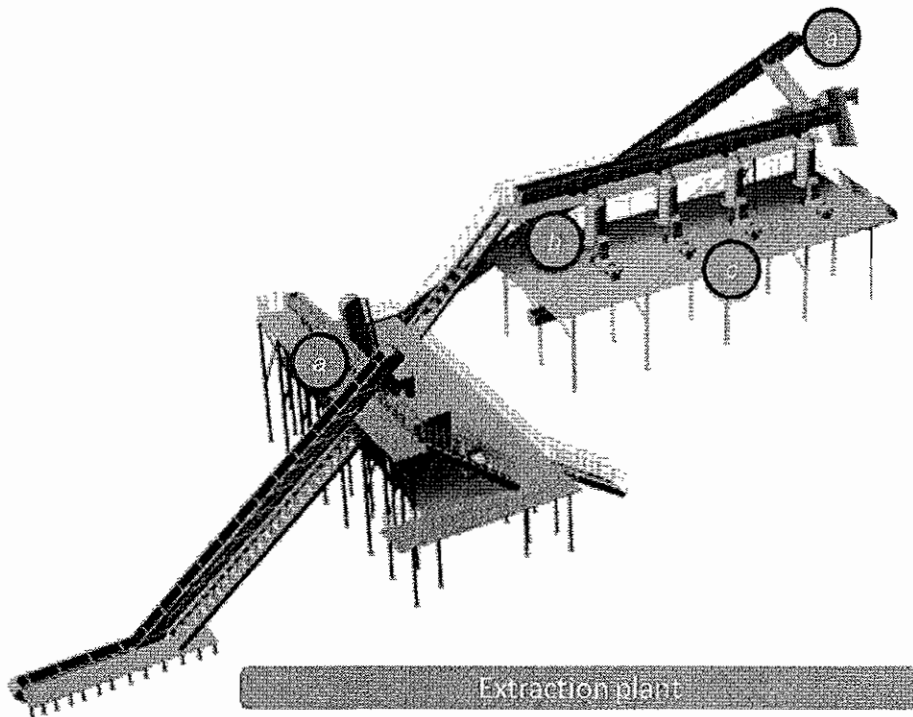
Our Cage Tipper System is used for the tipping of the SFB loaded cages into a hopper below prior to the transfer of SFB to the threshing station via a conveyor. The Tipper-Hopper Control System monitors and regulates the amount of SFB fed onto the said conveyor system.

Our Cage Tipper System with Tipper-Hopper Control System replaces the use of conventional overhead crane to tip cages for the unloading of SFB.

(ii) Automated Production Throughput Synchronisation Control System

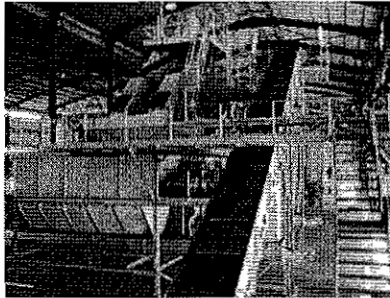
Our Automated Production Throughput Synchronisation Control System manages the handling of SFB through the thresher, digester and screw press stations. The ultimate objective of the system is to create a consistent and synchronised SFB feed from one station to another, in line with the desired production throughput. The operational parameters of the thresher, digester and screw press stations are being constantly monitored by the system and regulated if any changes arise during operations. Steady and even SFB supply to the thresher ensures thorough stripping thus reducing the amount of un-stripped bunches. Regulated feed to the digester station based on the required volume ensure consistent digester level for proper and thorough digestion which will then optimise the screw press function.

The individual products that work within the Automated Production Throughput Synchronisation Control System located in the extraction plant are depicted and described as follows:



## 6. INFORMATION ON OUR GROUP (Cont'd)

### (a) Twin Drive SFB Inclined Conveyor System



Drive FFB Conveyor System.

Our Twin Drive SFB Inclined Conveyor System is installed to operate a conveyor belt used for the transfer of SFB from the tipper-hopper to the threshing station and subsequently to the digestion station. It is driven by 2 heavy duty hydraulic hybrid motors, coupled to the left and right side of a conveyor drive shaft. It provides equal and balanced force distribution at each side of the conveyor chain, effectively prolonging its life span. This system operates similarly to that of our Twin

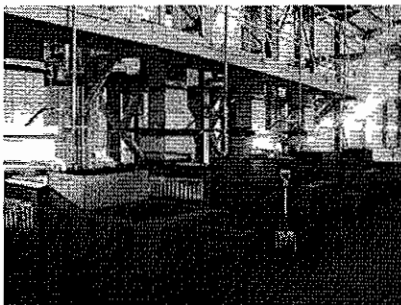
### (b) Digester Level Control System



Our Digester Level Control System automatically regulates the feed rate of fruitlets into the digester chamber, maintains fruitlet capacity in the digester at the pre-set mass and ensures even distribution of fruitlets in all digesters to optimise fruit digestion within the allocated time. Upon completion of the digestion process, the chute door at the bottom of the digester will open and discharge the digested mass to the screw press for oil extraction.

Our Digester Level Control System allows our customers to ensure a consistent and monitored feeding process of fruitlets into the digesters. This enhances their productivity process as ensuring optimal fruitlet digestion plays an important role in increasing OER.

### (c) Dolphin Intelligent Screw Press Control System (DISS)



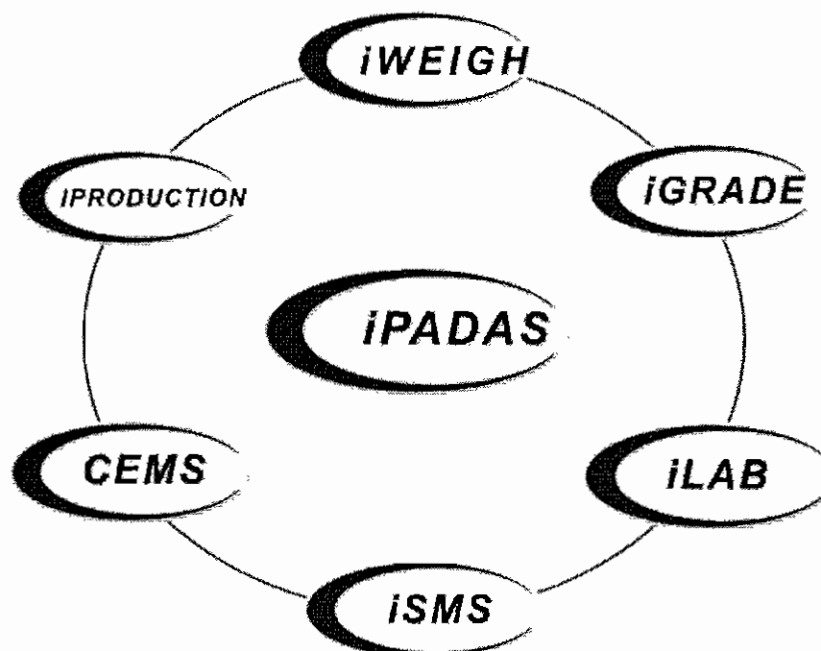
Our DISS is an automated screw press system to extract oil from the digested fruitlets. Installed at the base of the digester, the DISS maximises oil extraction due to a more effective pressing via its pressure control capability.

### (iii) IPADAS

We have developed a suite of 6 individual software applications for POMs, which can be sold either individually or as an integrated software system known as the Intelligent Process Automation & Data Acquisition System (iPADAS) to our customers. iPADAS provides POMs with a comprehensive process monitoring and resource planning solution. This enables POMs to centrally capture, monitor and provide real time data to support critical decision making relating to mill operation, production planning and quality control. It also enables centralised supervision of process attributes, alerts, event logs and has the ability to undertake continuous data warehousing which provides historical trending reports for the periodic data evaluation of important aspects of the palm oil milling process.

**6. INFORMATION ON OUR GROUP (Cont'd)**

The individual software applications within iPADAS, are illustrated as follows:



Software application	Description
iWEIGH	iWEIGH is an automated truck scale weighing application for POMs that integrates multiple truck scales with a single workstation. iWEIGH's automated interfacing with a broad range of weighing indicator models provides simple and easy weight acquisition while its access control feature with data validation provides weight information.
iGRADE	iGRADE is a mobile FFB grading application (essentially a portable wireless thin-client application). Its user-friendly interface allows for easy entry of direct sampling data and is capable of generating reports on FFB quality classification that is fully compliant with MPOB's quality control standard for FFB grading procedures.
iLAB	iLAB is a software application for recording and reporting of test procedures used in every level of production quality control. It automatically performs arithmetic calculations based on direct test data entry to produce test result reports that are fully compliant with MPOB quality control standards.

**6. INFORMATION ON OUR GROUP (Cont'd)**

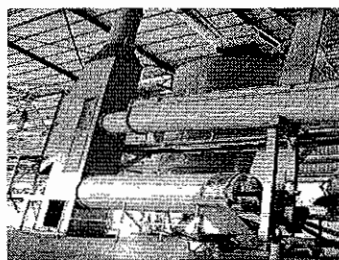
Software application	Description
iSMS	iSMS is a client-server application which harnesses the short message service (SMS) to disseminate critical business information such as stock level, production throughput, extraction rate and daily sales figures. The application supports all industrial leading databases at the backend in a single package. It also supports Global System for Mobile communications (GSM) modem for sending and receiving messages.
CEMS	CEMS refers to a packaged system of gas analysers, gas sampling system, temperature, flow and opacity monitors that are integrated with a data acquisition system, that is involved in the measurement of gases, particulates and smoke (opacity) emitted from stationery source of air pollutants and to provide a continuous record of air pollution control equipment performance and to determine compliance with emission of operation limits.
iPRODUCTION	iPRODUCTION integrates data from all input devices to provide details for monitoring mass balance and production control. It provides a wide range of processing data and historical trend analysis that are necessary for critical decision making.

**(iv) Other products**

In addition, our Group also offers other individual products used within the palm oil milling process, described as follows:

**(a) Water Dilution Control System**

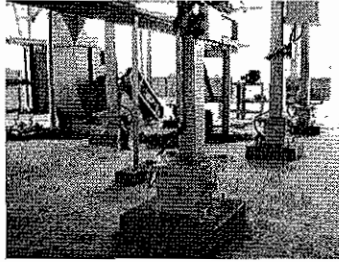
Our Water Dilution Control System automatically regulates the precise amount of water that is infused to stabilise the crude oil mixture before the clarification process. This is to ensure that sufficient water is mixed with crude oil mixture to achieve the optimal separation of impurities from the crude oil.

**(a) Depericarper Control System**

Our Depericarper Control System is a system which monitors and regulates the proportion of the velocity of airflow to the volume of material in the separation column in order to achieve effective separation of the nut and fibre.

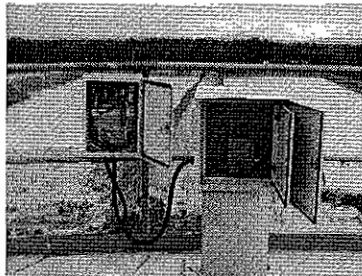
## 6. INFORMATION ON OUR GROUP (Cont'd)

(c) Silo and Hopper Weighing System



This system facilitates compression weighing and has an integrated human machine interface that allows interactive monitoring of storage inventory and alarm configuration. Used for the real-time reporting of the weight of contents fed into the digesters and storage silos.

(d) Tank Level Sensor



Our Tank Level Sensor is designed for level measurement of liquid stored in a storage tank.

### 6.6.1.2 Our Solutions

In addition to the products mentioned above, our Group is also able to provide turnkey and M&E solutions at the request of our customers.

(i) Turnkey solutions

In a turnkey solutions project, we manage the entire construction or upgrading and/or extension of a POM, from its design to its development and commissioning. The provision of turnkey solutions would include responsibilities such as obtaining the necessary building plan approvals from the local authorities, land clearing, civil engineering works and the construction of the POM or any extension thereof, all of which would be sub-contracted to other professionals and completed under the supervision of our Group's project management team. For clarity, a turnkey solutions project would also include the job scope of an M&E solutions project.

(ii) M&E solutions

In an M&E solutions project, we manage the installation of all mechanical and electrical works via the installation of external equipment, components and/or parts in an already constructed POM. For the majority of our M&E solutions projects, our customers may specify the equipment, components and/or parts of their choice. Our engineers would then work closely with these customer-specified suppliers in order to ensure the seamless integration of the said equipment, components and/or parts with our products.

Notwithstanding the above, we will only undertake an M&E solutions project or turnkey solutions project in conjunction with the purchase and installation of our products, subject to a viability and feasibility evaluation of the project.



## 6. INFORMATION ON OUR GROUP (Cont'd)

### 6.6.1.3 Our Services

As part of our after sales service, we also provide the option to our customers for the running of periodic mill diagnostics to determine that our products installed in the POMs are running at a satisfactory level. We also provide maintenance and repair services for our customers on an ad-hoc or contractual basis.

## 6.7 PRINCIPAL MARKETS

While we have sold our products to palm oil millers based in 7 countries around the world, our principal markets are still the palm oil milling machineries sector of Malaysia and Indonesia. Indonesia is currently our largest overseas market and is expected to remain our largest export market moving forward due to Indonesia being the world's largest and fastest growing palm oil producer.

From FYE 2011 to FYE 2014, our revenue by geographical markets is as follows:

Geographical markets	FYE 2011		FYE 2012		FYE 2013		FYE 2014	
	RM'000	%	RM'000	%	RM'000	%	RM'000	%
<b>Domestic<sup>(1)</sup></b>	9,521	20.70	10,877	16.95	55,745	63.17	80,168	76.65
<b>Overseas</b>								
Indonesia	32,760	71.23	48,679	75.85	30,103	34.11	23,014	22.00
Thailand	908	1.98	2,158	3.36	674	0.76	7	0.01
India	29	0.06	148	0.23	41	0.05	6	0.01
Myanmar	1,104	2.40	1,383	2.16	522	0.59	51	0.05
Papua New Guinea	702	1.53	783	1.22	661	0.75	1,335	1.28
Colombia <sup>(1)</sup>	963	2.09	84	0.13	501	0.57	4	*.
Australia <sup>(2)</sup>	-	-	63	0.10	2	*.	-	-
Singapore <sup>(2)</sup>	3	0.01	-	-	-	-	-	-
<b>Total overseas</b>	<b>36,469</b>	<b>79.30</b>	<b>53,298</b>	<b>83.05</b>	<b>32,540</b>	<b>36.83</b>	<b>24,417</b>	<b>23.35</b>
<b>Total revenue</b>	<b>45,990</b>	<b>100.00</b>	<b>64,175</b>	<b>100.00</b>	<b>88,249</b>	<b>100.00</b>	<b>104,585</b>	<b>100.00</b>

Notes:

\* Negligible.

(1) Includes sales of palm oil milling machineries and parts to palm oil milling machinery traders, which we are unable to ascertain the final geographical market in which our said products sold are utilised.

(2) Consist solely of sales of palm oil milling machineries and parts to palm oil milling machinery traders of which we are unable to ascertain the final geographical market in which our said products sold are utilised.

As the revenue generated by our Group is pre-dominantly project-based in nature, the fluctuations of revenue generated in the respective abovementioned geographical markets over the Period under Review are mainly due to the revenue recognised from projects based on the percentage-of-completion method undertaken in the respective geographical locations. Please refer Section 10.2(i) for further analysis on the revenue by geographic market for FYE 2011 to FYE 2014.

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**6. INFORMATION ON OUR GROUP (Cont'd)**

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**6.8 TYPES, SOURCES AND AVAILABILITY OF RESOURCES**

We purchase a variety of materials, components and parts for the fabrication of our products. Such materials and parts include metal, steel, equipment and parts, hydraulic parts, cables, electrical switchboards and other electrical components. Our costs of materials and parts constitute approximately 13.28%, 34.42%, 15.75% and 10.13% of our cost of sales for the FYE 2011, FYE 2012, FYE 2013 and FYE 2014 respectively. The cost of these materials and parts are highly variable and depends on market prices. Our policy is not to purchase materials, components and parts prior to receiving a binding customer forecast, contract or order.

Aside from purchasing from our suppliers, we also procure such materials, components and parts through our sub-contractors which provide the materials, components and parts as part of their labour and fabrication services. In such cases, we are unable to quantify the cost of such materials, components and parts as it is generally included as part of the entire cost package offered by the sub-contractors. The spike in the percentage of the cost of materials and parts as compared to our overall cost of sales during the FYE 2012 was due to the increase in materials and parts consumed as a result of the decrease in sub-contractors engaged.

Materials, components and parts are sourced locally and/or imported depending on the locations of our projects. We import certain desired grades of materials, components and parts which are not available in the local market to meet certain project specifications.

We seek to reduce our exposure to increases in materials prices by utilising a pricing methodology that factors in the cost of materials, components and parts we are required to purchase to fabricate our products. The pricing methodologies used by our Group are as follows:

(i) "Back-to-back"

For certain of our customers, we order materials "back-to back" with the customer's order and incorporate the materials, components and parts' purchase price into the final product price. This reduces our exposure to any potential increases in the prices of materials and parts as upon obtaining the order, we will proceed to order the materials and parts required.

(ii) Customer specified suppliers

For certain of our customers, we use materials that are sourced from suppliers directed by our customers at prices that have been pre-negotiated by the customer and that are passed through to the customer in the final product price.

(iii) Project budgeting

In respect of our project customers, we have traditionally been able to factor in the cost of our materials, components and parts into our project bidding as the quantity and specification of the materials, components and parts required are usually determined upfront after the structural, electro-automation, pneumatic and hydraulic products design is finalised.

We mitigate the risk of the availability of materials, components and parts by having a diversified pool of established suppliers. In addition to the aforementioned, we also mitigate the risk of availability by making deposits as advance payments to "lock-in" the quantity of materials, components and parts as well as to fix our cost of purchases where and when necessary.

## 6. INFORMATION ON OUR GROUP (Cont'd)

### 6.9 MAJOR CUSTOMERS

Our Group's major customers who accounted for 10% or more of our Group's total revenue for the Period under Review are as follows:

Name of customer / Country of origin	Customers' principal activity	Products supplied/ Services	Length of relationship (Years)	Revenue							
				FYE 2011 RM'000	%	FYE 2012 RM'000	%	FYE 2013 RM'000	%	FYE 2014 RM'000	%
Bau Palm Oil Mill Sdn Bhd (a company owned by SALCRA) / Malaysia	Operation of a palm oil mill	Civil, structural, mechanical and electrical works for the extension and upgrading of a POM including the supply of Dolphin's Automated Cage Handling System	2	-	-	-	26,121	29.60	158	0.15	
PT Kutai Balian Nauili / Indonesia	Cultivation and processing of palm oil	Civil, structural, mechanical and electrical works for the construction of a POM and the supply of Dolphin's Automated Cage Handling System	2	-	-	-	15,440	17.50	13,001	12.43	
Syabas Vista Sdn Bhd / Malaysia	Palm oil milling machineries trader	The supply of Dolphin's Automated Cage Handling System	2	-	-	-	14,300	16.20	-	-	
PT Dharma Satya Nusantara / Indonesia	Palm oil and wood processing	Mechanical and electrical works and the supply of Dolphin's Automated Cage Handling System and STERPAS as well as the construction of a bulking station	4	6,178	13.43	31,559	49.18	5,908	987	0.94	
PT Prima Mitrajaya Mandiri / Indonesia	Production of crude palm oil and palm kernels	Mechanical works	5	13,675	29.73	69	0.11	224	0.25	16	0.02

## 6. INFORMATION ON OUR GROUP (Cont'd)

Name of customer/ Country of origin	Customers' principal activity	Products supplied/ Services	Length of relationship (Years)	Revenue							
				FYE 2011 RM'000	%	FYE 2012 RM'000	%	FYE 2013 RM'000	%	FYE 2014 RM'000	%
Vila Sutera Sdn Bhd / Malaysia	Manufacturing of crude palm oil, palm kernel	Civil, structural, mechanical and electrical works for the extension and upgrading of a POM including the supply of Dolphin's Automated Cage Handling System and Automated Production Throughput Synchronisation Control System	2	-	-	-	-	117	0.13	20,944	20.03
SALCRA / Malaysia	Developing and managing Native Customary Rights Land, Native Land and Mixed Zone land for oil palm and tea estates based on "in-situ" concept, processing FFB to produce CPO and palm kernel and processing tea leaves to made tea, marketing of oil palm products and made tea with agriculture product.	Civil, structural, mechanical and electrical works for the construction of a POM and the supply of Dolphin's Automated Cage Handling System and Automated Production Throughput Synchronisation Control System	5	-	-	-	-	-	-	48,239	46.12

During the Period under Review, our Group has served 116 customers who may own multiple POMs. Of these 116 customers, 69 customers are based in Malaysia, 34 customers are based in Indonesia, while the remaining 13 customers are based across Thailand, India, Myanmar, Papua New Guinea, Colombia, Australia and Singapore.

**6. INFORMATION ON OUR GROUP (Cont'd)**

Of the 116 customers served by our Group during the Period under Review, 103 customers are recurring customers. The revenue contributed by these recurring customers during the Period under Review is as follows:

	FYE 2011		FYE 2012		FYE 2013		FYE 2014	
	RM'000	(1)%	RM'000	(1)%	RM'000	(1)%	RM'000	(1)%
Revenue generated from recurring customers	37,312	81.13	47,509	74.04	41,610	(2)47.15	55,692	53.25

Notes:

- (1) Percentage of revenue of the respective financial years during the Period under Review.  
 (2) The decrease in the revenue generated from recurring customers during the FYE 2013 was because we were able to secure projects from new customers, namely PT Kutai Balian Nauli and Syabas Vista Sdn Bhd.

As at the LPD, our Group is presently serving 114 customers of which 54 customers have previously engaged our Group for the provision of various products and solutions and have subsequently awarded our Group with new contracts. Of the recurring customers, 45 recurring customers or 83.33% have engaged our Group for the provision of our products and solutions for their new or other existing POMs while 20 recurring customers or 37.04% have engaged our Group for maintenance of our products previously installed. The frequency of our Group being engaged by our recurring customers is dependent on our recurring customers' expansion of their POMs and/or replacement schedule of machinery and parts used in their POMs.

Given the nature of the contracting business, we do not consider ourselves as dependent on any single customer during the Period under Review as the contribution by major customers are dependent on the contract value of the projects in the respective years. In addition, albeit the project nature of our business operations, our Board is of the opinion that we are able to sustain our profitability as our Group has been able to continuously secure new contracts and are not dependent on any single contract. This is evident from our total order book of secured contracts as at the LPD which stands at RM172.16 million as disclosed in Section 10.7 of this Prospectus.

All the major customers, as listed above, are not related to our Group. Our relationships with our customers are mostly project based in nature where contracts are normally awarded after competitive bidding or direct negotiation. We have been repeatedly invited by our past customers to participate in the bidding/submit our proposal for negotiation for the upgrading of their other POMs and/or automation of their new POMs. In addition, we have also been referred to new customers by our existing customers or approached by our existing customers themselves, for the upgrading of their existing POMs milling systems/ automation of their new POMs.

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**6. INFORMATION ON OUR GROUP (Cont'd)****6.10 MAJOR VENDORS**

Our main cost of sales are that of the engagement of sub-contractors and labour costs, which accounted for approximately 77.54%, 50.92%, 78.62% and 87.27% of our Group's cost of sales during the FYE 2011, FYE 2012, FYE 2013 and FYE 2014 respectively.

Our Group's major vendors (including sub-contractors) who accounted for 10% or more of our Group's total purchases during the Period under Review are as follows:

Name of vendor / Country of origin	Vendors' principal activity	Products supplied/Services	Length of relationship (Years)	FYE 2011		FYE 2012		FYE 2013		FYE 2014	
				RM'000	%	RM'000	%	RM'000	%	RM'000	%
Kejuruteraan Trisuria Sdn Bhd / Malaysia	Mechanical and electrical engineering works	Steel works sub-contractor	21	18,244	55.72	9,173	18.97	25,639	39.76	35,007	44.97
Hydra-Line Hydraulics Sdn Bhd / Malaysia	Design, supply, install, test and commission hydraulic products and provision of related services	Supply and customisation of mechanical components	21	3,367	10.28	4,738	9.80	4,040	6.27	1,860	2.39
Palma Banjaran Sdn Bhd / Malaysia	Subcontractor for engineering works and electrical installation	Civil and structural engineering works	2	-	-	-	-	4,999	7.75	12,953	16.64

The major vendors, as listed above, are not related to our Group. We believe that we are the major customer of both Kejuruteraan Trisuria Sdn Bhd and Hydra-Line Hydraulics Sdn Bhd.

As our Group has a diverse range of vendors, majority of whom are from Malaysia and Indonesia, we do not consider ourselves as dependent on any major vendors who accounted for more than 10% of our Group's purchases during the Period under Review. As at the LPD, we have a well-diversified vendor base comprising 329 vendors.

Our purchases from each vendor is determined after taking into account various criteria such as competitive pricing, quality of products, availability of supply and delivery lead time.

**6. INFORMATION ON OUR GROUP (Cont'd)****6.11 FABRICATION FACILITIES AND CAPACITY**

Our business activity is segmented into contract and/or order based and each contract and/or order would typically require between 2 weeks to 24 months to complete from the design to delivery and commissioning at the project site. The fabrication of a particular product offered by our Group can be divided into external fabrication works, in-house fabrication works and on-site works.

The completion duration varies, depending on the scope and specification of a contract and/or order and would also depend on the customer's site readiness. Further thereto, our annual production capacity depends on the complexity and type of products ordered by the customer. In addition, the utilisation rate of the fabrication and assembly facilities are determined by the timing of implementation and location of the proposed customers' facilities. Due to the nature of our business which is project based, the estimated annual production capacity and the utilisation rate of our assembly facilities cannot be accurately measured by conventional formulas.

Notwithstanding the above, our Board, based on their best estimates, has derived our in-house fabrication capacity during the Period under Review and its corresponding utilisation rates solely based on the working hours of our in-house fabrication capacity, which are illustrated as follow:

FYE 2011		FYE 2012		FYE 2013		FYE 2014	
Annual maximum capacity <sup>(1)</sup> (Fabrication Hours)	Utilisation rate <sup>(2)</sup> (%)	Annual maximum capacity <sup>(1)</sup> (Fabrication Hours)	Utilisation rate <sup>(2)</sup> (%)	Annual maximum capacity <sup>(1)</sup> (Fabrication Hours)	Utilisation rate <sup>(2)</sup> (%)	Annual maximum capacity <sup>(1)</sup> (Fabrication Hours)	Utilisation rate <sup>(2)</sup> (%)
14,560	52.55	14,560	68.90	14,560	88.98	14,560	47.39

Notes:

- (1) The maximum annual capacity of our in-house fabrication capacity is measure based on 7 technicians who are employed full-time throughout the Period under Review working 8 hours per day, 260 days per year.
- (2) The utilisation rate of our fabrication capacity in each financial year was calculated based on the amount of time required to undertake the in-house fabrication portion of our products for contracts and orders during each particular financial year during the Period under Review divided over the maximum annual capacity.

The utilisation rates for our in-house fabrication capacity had increased from 52.55% in the FYE 2011 to 68.90% in the FYE 2012 and subsequently 88.98% in the FYE 2013. This was mainly due to the year-on-year increase in the number of products fabricated by our Group during the Period under Review to meet the increasing demand for our Group's palm oil milling systems. However, the said utilisation rate for our in-house fabrication capacity had decreased to 47.39% in the FYE 2014. This decrease was mainly resulting from the decrease in orders received from palm oil milling machineries traders.

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## 6. INFORMATION ON OUR GROUP (Cont'd)

Presently, our main fabrication facilities are located in our headquarters and workshop for the production and assembly of our products, both located in Puchong, Selangor. We are currently faced with space constraint and intend to expand our fabrication facilities via the renovation and expansion of our currently vacant factory building in Shah Alam, Selangor. The said cost for the renovation and expansion of our factory building including the set-up of a new R&D facility is estimated to be RM23.00 million which will be funded via a combination of the proceeds to be raised from the Public Issue amounting to RM15.00 million coupled with internally generated funds and/or bank borrowings for the remaining RM8.00 million. Please refer to Section 3.7 of this Prospectus for further details on the utilisation of proceeds for our expansion of facilities and set-up of a R&D facility. The actual increase in the production capacity and utilisation rates of our fabrication and assembly facilities is dependent on the number and type of products sold by the Group.

### 6.12 TECHNOLOGY

We use various softwares for our design and detailing processes which complement the skills and expertise of our staff. This enables us to complete our projects effectively and efficiently.

As at the LPD, the software used in our processes are as follows:

Software	Purpose/Function
AutoCAD LT2011 & LT2013	Used for the draught and design of mechanical parts, components, layout plan, schematic diagram and other design purpose.
Solidworks Premium plus Simulation	Used for 3D modelling of parts and assembly, and for design analysis and optimisation, with main feature of motion study, static and dynamic analysis.
Eplan	Electrical CAD software for creating and manage electrical schematic diagram, cabinet design, panel layout, and terminal management.
Twincat PLC Programming	Programming software for Beckhoff PLC. This programming software allows PLC programming using all the languages in the International Electrotechnical Commission's 61131-3 standard.
WinProladder	Ladder programming software for specific PLC.
PM Designer	Programming software for specific HMI.
Microsoft Visual Studio 2010	Software used to write native code and managed code supported by Microsoft Windows, Windows Mobile, Windows CE and .NET framework.
Adobe Illustrator CS5	Used to design the user interface of software application.
LAMP (software bundle)	Consists of: (a) Linux, the server operating system; (b) Apache HTTP Server, the web server; (c) MySQL, the database management system; (d) PHP & Perl, the scripting languages used for dynamic web pages and web development.
Wonderware in Touch	HMI software tool for creation of standardised, reusable visualisation applications and development across an entire enterprise.



**6. INFORMATION ON OUR GROUP (Cont'd)****6.13 CAPITAL EXPENDITURES AND DIVESTITURES**

Save as disclosed below, our Group has not incurred any other material capital expenditures and divestitures (including interests in other companies) during the Period under Review and up to the LPD:

	FYE 2011 RM'000	FYE 2012 RM'000	FYE 2013 RM'000	FYE 2014 RM'000	From 1 January 2015 up to LPD RM'000
<b>Expenditures</b>					
Leasehold land and factory lots	-	7,765	4,452	-	-
Motor vehicles	68	1,574	929	1,243	211
Office equipment and furniture and fittings	43	55	45	69	60
Computer	198	240	83	137	9
Renovation	-	-	17	64	127
<b>Total expenditures</b>	<b>309</b>	<b>9,634</b>	<b>5,526</b>	<b>1,513</b>	<b>407</b>
<b>Net book value of disposal/write-off</b>					
Office equipment and furniture and fittings	44	26	-	-	-
Computer	32	47	-	5	-
Renovation	4	6	-	-	-
Motor vehicles	26	72	267	-	43
<b>Total net book value of disposal/write-off</b>	<b>106</b>	<b>151</b>	<b>267</b>	<b>5</b>	<b>43</b>

There are no material expenditures or divestitures currently in progress, within or outside Malaysia.

**6.14 PROCESS FLOW**

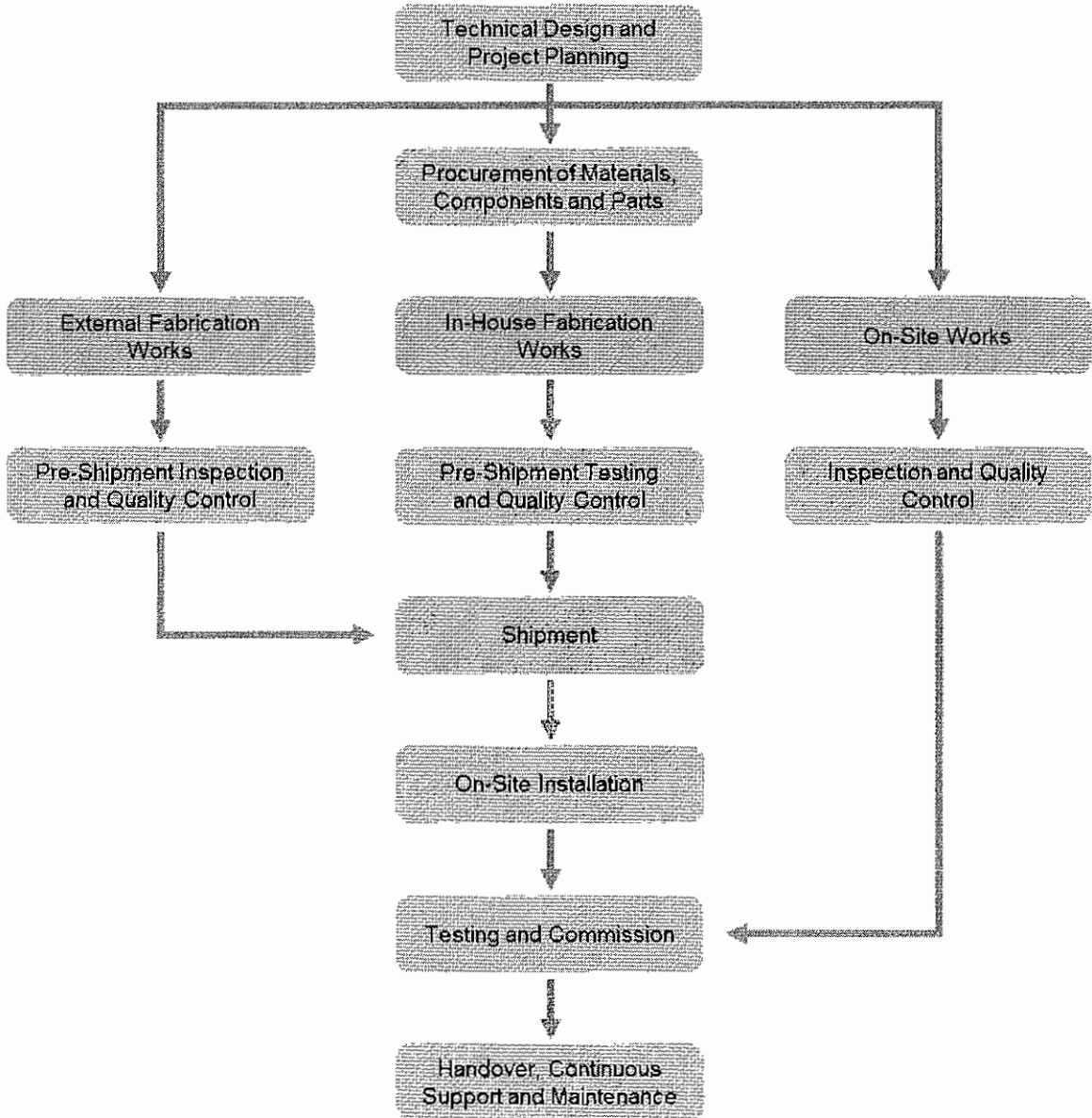
Our Group's production process flow involves a series of thorough and controlled procedures to ensure the highest quality products are provided to our customers. Our production process flow can be divided into 2 main categories, namely structural, electro-automation, pneumatic and hydraulic products, and system hardware and software application solutions.

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6. INFORMATION ON OUR GROUP (Cont'd)

6.14.1 Material Handling and Process Automation and Control

The diagram below illustrates the production process flow for the production of our structural, electro-automation, pneumatic and hydraulic products:



**6. INFORMATION ON OUR GROUP (Cont'd)**

---

**(i) Technical Design and Project Planning**

The process starts with the preparation of an overall structural and/or technical design based on the specifications of a particular project or order as set forth by our customers. The overall structural and/or technical design is prepared and drafted by our engineers and is discussed with the customer to obtain concurrence. Thereafter, project planning commences wherein critical areas such as sourcing of materials, components and parts, fabrication planning, sub-contractor engagements (where relevant and applicable), human resources planning, timing, logistics and budgets are carefully planned prior to execution.

**(ii) Procurement of Materials, Components and Parts**

Acquisition of materials, components and parts are centralised at our procurement division and are sourced directly from manufacturers and/or authorised agents to ensure authenticity and quality. Notwithstanding the aforementioned, procured products are inspected for quality control purposes and conformity to a particular project or order specification prior to commencement of our fabrication process.

**(iii) Fabrication and On-Site Works**

The works undertaken for the production of our Group's structural, electro-automation, pneumatic and hydraulic products can be captured under 3 segments, which are detailed as follows:

**(i) In-House Fabrication Works**

Our in-house fabrication works represent the core segment of our fabrication and on-site works undertaken. This mainly comprises of the fabrication of our high-end products such as our electro-automation, pneumatics and hydraulics products.

**(ii) External Fabrication Works**

Our external fabrication works represent the fabrication works which are performed by our sub-contractors at their premises. The fabrication works which are sub-contracted out include, but are not limited to, fabrication works undertaken for structures and platforms as well as the hardware used to house our products. External fabrication works are done under constant monitoring by our engineers and quality control personnel in order to ensure the necessary standards are achieved.

**(iii) On-Site Works**

The on-site works undertaken by our Group include civil and structural works. This will generally be undertaken by external sub-contractors who have the necessary expertise in this field. The exact scope of works will however depend on the nature and specification of each project or order.

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**6. INFORMATION ON OUR GROUP (Cont'd)**

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**(iv) Inspection, Testing and Quality Control**

Once the fabrication works are completed, our engineers would perform the pre-shipment inspection, testing and quality control process to ensure that the items fabricated conform to the necessary standards and are fully functional. Where on-site works are undertaken, our engineers would be performing on-site inspections for quality control and conformity to project or order specifications as well as compliance with the respective land, building and local municipal council requirements.

**(v) On-Site Installation**

All fabricated products shall upon arrival on-site be assembled and installed. A combination of our installers employed by our Group and appointed local installers sourced within the locality of the project site or from the country of which our products are installed in are contracted during the assembly and installation phase and are supervised by our engineers. Our engineers will also provide an installation report to the customer to ensure that the parts are assembled and installed according to the specifications required by our customers.

**(vi) Testing and Commissioning**

Upon completion of the installation process as well as the on-site works, our engineers will begin testing of the installed products and commissioning of all works done. This stage is performed together with the customer for familiarisation and for the customer's acceptance and verification process. Upon completion of this process, the project or order is handed over to the customer.

**(vii) Handover and Continuous Support and Maintenance**

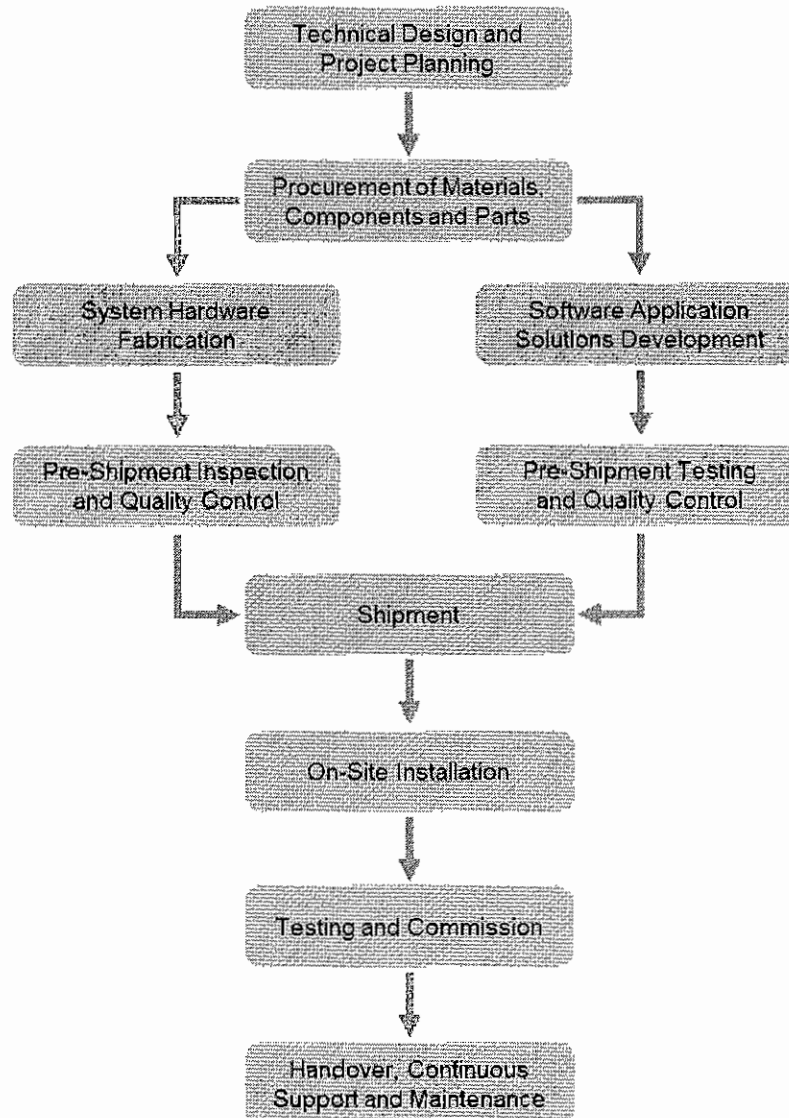
Continuous support and maintenance is offered to each customer to ensure that our products are properly operated and maintained. We also provide on-site stand-by technical assistance to our customers for a pre-agreed duration as an after sales service. On-site system familiarisation training is also provided where required. In addition, we encourage and promote the principle and practice of "preventive maintenance" as a means to minimise and safeguard our customers' investments in capital expenditure against any unexpected mechanical and/or system breakdown and downtime. Preventive maintenance for our structural, electro-automation, pneumatic and hydraulic products entails the pre-determination of a specific schedule of maintenance wherein our engineers would conduct inspections in accordance to the schedule of maintenance. The pre-determined schedule of maintenance would also cover the replacement of wear and tear components or parts at specific intervals and/or or based on running capacity of the equipment.

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## 6. INFORMATION ON OUR GROUP (Cont'd)

### 6.14.2 System Hardware and Software Application Solutions

The diagram below illustrates the development and production process flow for the system hardware and software application solutions.



#### (i) Technical Design and Project Planning

Similar to the production of our structural, electro-automation, pneumatic and hydraulic products, the process starts with the preparation of an overall structural and/or technical design based on the specifications of a particular project or order after discussions held with our customers to identify their needs. The overall structural and/or technical design is prepared and drafted by our engineers, which include our system hardware and software applications development engineers, and is presented to the customer for concurrence. Thereafter, project planning commences wherein critical areas such as sourcing of materials, components and parts, fabrication planning, human resources planning, timing, logistics and budgets are carefully planned prior to execution.

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**6. INFORMATION ON OUR GROUP (Cont'd)**

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**(ii) Procurement of Materials, Components and Parts**

Similarly, acquisition of materials, components and parts for control systems are centralised at our procurement division and are sourced directly from manufacturers and/or authorised agents to ensure authenticity and quality. Procured products are inspected for quality control and conformity to a particular project or order specification prior to commencement of our fabrication process.

**(iii) Fabrication and Development**

System hardware fabrication and software application solutions development are performed entirely in-house as it is considered as our high-end products. The system hardware fabrication relates to the production of the control systems and console panels, the assembly of electronic and electrical components and parts and integration of components and parts to form complete system hardware. The software application solutions development involves the development of the "brain" that integrates, controls and operates the completed system hardware. Upon the completion of the fabrication and development of the respective system hardware and software application solutions, the software is then installed into the hardware to form a complete operating console unit.

**(iv) Inspection, Testing and Quality Control**

Once the fabrication and development process is completed, our engineers would perform the pre-shipment inspection, testing and quality control process in order to ensure that the console unit is in perfect operating condition.

**(v) On-Site Installation**

Upon arrival on-site, the console unit will then be installed and integrated with the existing palm oil milling systems. A combination of our own installers employed by our Group and appointed local installers sourced within the locality of the project site or from the country of which our products are installed in are contracted during assembly and installation phase and are supervised by our engineers. Our engineers will also provide an installation report to the customer to ensure that the software systems installed are successfully integrated into the palm oil milling systems.

**(vi) Testing, Training and Commissioning**

Upon completion of the installation process, our engineers will begin testing and commissioning. This stage is performed together with the customer for increased familiarisation and for the customer's acceptance and verification. Upon completion of this process, the console unit is handed over to the customer.

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**6. INFORMATION ON OUR GROUP (Cont'd)**

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**(vii) Handover and Continuous Support and Maintenance**

Similarly, continuous support and maintenance is offered to each customer to ensure that our system hardware and software application solutions are properly operated and maintained. We also provide on-site stand-by technical assistance to our customers for a pre-agreed duration as an after sales service. During this process, our engineers will also provide training to the customer's operators and engineers in respect of operating and simple maintenance of the console unit. In addition, we equally promote the same principle of "preventive maintenance" for our system hardware and software application solutions as a means to minimise and safeguard our customers' investments in capital expenditure against any unexpected mechanical, electrical and system breakdown or downtime. Preventive maintenance for our system hardware and software application solutions entails pre-determination of a specific schedule of maintenance wherein our engineers would conduct inspections in accordance with the schedule of maintenance. The pre-determined schedule of maintenance would also cover the replacement of wear and tear components or parts at specific intervals and/or based on running capacity of the equipment.

**6.15 R&D**

Our R&D division is focussed on the innovation of technologies for economic and commercial integration into the palm oil milling process.

Given our Group's established presence and experience in the palm oil industry, we have garnered a wealth of knowledge and understanding of the requirements and needs of the palm oil milling machineries sector. This is showcased by our successful commercialisations of our products integrating the electro-automation technologies, the pneumatic and hydraulic technologies as well as system hardware and software application solutions into the palm oil milling process.

Our R&D activities essentially cover the following:

**(i) New Product Research**

Before a new product is developed, our R&D division conducts a thorough study to support a particular project. The research phase includes determining product specifications, production costs and a production time line. The research also includes an evaluation of the need for the product before the design begins to ensure it is a functional product that has economic benefits to customers.

**(ii) New Product Development**

The research paves the way for the development phase. This is the time when the new product is actually developed based on the requirements and ideas created during the research phase. The developed product must meet the product guidelines and any regulatory specifications.

**(iii) Existing Product Updates**

Existing products also fall under the scope of research and development. The division regularly evaluates the products offered to ensure they are still functional. Potential changes or upgrades are considered.

## 6. INFORMATION ON OUR GROUP (Cont'd)

### (iv) Quality Checks

The research and development division handles quality checks on products created given that it has an intimate knowledge of the requirements and specifications of a particular project. This allows team members to ensure the products meet standards so that we produce quality products.

### (v) Innovation

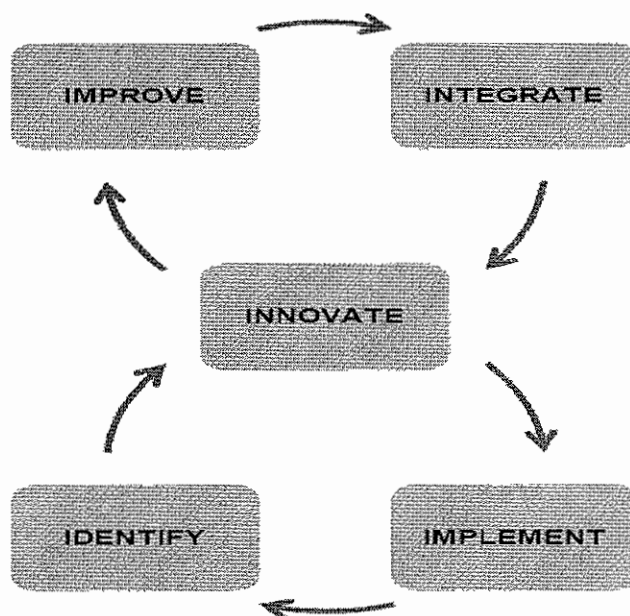
The research and development team aids the Group in staying ahead and to be competitive. The division is able to research and analyse the products other businesses are creating, as well as the new trends within the industry. This research aids the division in developing and updating the products created

#### 6.15.1 R&D strategy and principles

Our R&D strategy is to perform R&D activities with a goal of growing existing business fields, and creating future value. The mission of our R&D division is to maintain our competitive edge by:

- (i) continuously enhancing existing palm oil milling technology and solutions as part of continuous improvement efforts; and
- (ii) developing new technology for the palm oil milling process that offer better or new functions and economic value for our customers.

We strive for revenue-driving R&D, performing groundbreaking, innovative and technological development and integration into the palm oil milling process.



Our Group's R&D is guided by the principles as described in the diagram above to achieve growth in existing business fields and to create new businesses.

As depicted above, innovation is our key driving principle that creates a continuous R&D cycle.



## 6. INFORMATION ON OUR GROUP (Cont'd)

### 6.15.2 R&D facilities and personnel

Our R&D division is based in our head office in Malaysia, which is highly advantageous given that our R&D team would have immediate access to resources, new developments and market intelligence from within Malaysia which is the leader in the provision of palm oil milling machineries and equipment.

We have invested in the necessary infrastructure, facilities and set-up to support our R&D initiatives and are expected to further invest into this area in order to be competitive. Our development costs for the FYE 2014 were approximately RM8.73 million, which was approximately 8.35% of our revenue.

Our Group's R&D initiatives can be divided into 3 divisions, namely Electrical & Automation, Pneumatic & Hydraulic and Software Development and is overseen by Woo Wai Heng, our R&D Director. He is supported by Teoh Kah Lean, who is currently our Head of Process Automation and Control Division, Afif Hadafi who heads our Electro Pneumatic and Hydraulic Engineering Division and Lim Ah Ber, who heads the Software Division. They are assisted by 3 of our Group's engineers. Save for Woo Wai Heng who heads our Group's R&D efforts on a full-time basis, the other employees have dual roles in our Group and are involved in the R&D initiatives on a project basis.

### 6.15.3 R&D achievements

Our Group's R&D strategies and principles are centred around the improvement of our initial products and developed other product variants that are currently used in our structural, electro-automation, pneumatic and hydraulic products.

On 17 October 2013, we had via a licensing agreement entered into between Dolphin Applications and UPM Innovations Sdn Bhd ("**UPM Inno**"), licensed an intellectual property owned by UPM known as 'An Improve Sterilization Process to Increase Palm Oil Extraction Rate' which describes an improved method of sterilisation that achieves optimum hydrolysis of the oil palm fruitlets in order to realise higher palm OER ("**UPM Intellectual Property**"). The licensing of the UPM Intellectual Property was the result of a collaboration with UPM which spanned approximately 1 year. UPM Inno is a company which was established by UPM to undertake the commercialisation of identified intellectual properties of UPM. Kindly refer to Section 6.23 of the Prospectus for further information on the said licensing agreement.

Further thereto, together with UPM, we had on 26 November 2013 introduced a new product known as Robo-REST, an acronym for Robotic-Rapid Equilibrated Sterilisation Technology. The development of Robo-REST represents the culmination of the method described in the UPM Intellectual Property and our engineering expertise to produce an improved sterilisation system. Robo-REST is expected to be commercialised by the first half of 2016.

The Robo-REST is an automated sterilisation system that enables a chemical reaction for complete detachment and separation of fruits from stalk and cells from cells and retention of water within the cells. This state, which is defined as "complete hydrolysis", is a chemical reaction that is not achieved by existing steriliser systems. Robo-REST utilises higher-pressure steam that is able to ensure less evaporation of water from the sterilising bunches and is able to achieve optimum and complete hydrolysis. The expected results of which are improved performance in terms of efficiency in the sterilisation process and increase in palm OER.

## 6. INFORMATION ON OUR GROUP (Cont'd)

### 6.16 OUR COMPETITIVE ADVANTAGES

We believe our key competitive advantages are:

(i) Experienced key management team

Our Group's founders, namely Low Teck Yin and Hoh Yeong Cherng have played a vital role in growing our business. They have an average of 20 years of experience in the palm oil milling machineries sector and more than 26 years of experience and knowledge in the automation, pneumatic and hydraulic engineering sector. More importantly, their leadership, technical know-how and strong business network within the palm oil industry has enabled us to grow to where we are today. They have been directly involved in the business operation of our Group since its inception in 1992. In addition, we have in place a team of key management personnel who possess the necessary qualifications and specific industry experience to implement our comprehensive range of integrated solutions.

With the wealth of experience, competencies and knowledge accumulated by our key management over an average of 21 years and coupled with the support of our strong operational team, our Group is able to consistently deliver projects on time with quality to ensure customer satisfaction. Our key management team's expertise, commitment and knowledge of the business have contributed to our steady growth over the years. In addition, our key management not only has the knowledge and tenacity to be the leading player in the industry, but also a visionary view for a more sustainable development of the palm oil milling machineries sector.

(ii) Proven performance and track record

Our Directors believe that in the last 12 years, our Group has established a reputation as a reputable and reliable provider of integrated and modular automation systems and software to the palm oil milling machineries sector. This is achieved through consistent and timely delivery of quality products and services.

Our Directors believe that our track record as a reliable provider of integrated and modular automation systems and software is demonstrated by our long-standing business relationships with industry operators. As at the LPD, none of our major customers have prematurely terminated our contractual services with them.

In addition, as a testimony to our good track record and the high level of customer satisfaction, and the quality and reliability of our products, our customers have continued to appoint us for their subsequent upgrading/automation of their POMs. Some of our recurring customers who are familiar names in the palm oil industry during the Period under Review include PT Prima Mitrajaya Mandiri (a subsidiary of MP Evans Group PLC), PT Dharma Satya Nusantara (which was listed on the Indonesia Stock Exchange (IDX) on 14 June 2013) and SALCRA.

(iii) Provision of competitive and cost effective palm oil milling systems and software

We pride ourselves on our ability to provide customised solutions for customers, but more importantly to provide value-added solutions. We design and develop our products based on the needs and technical requirements of our customers. We continuously strive to design our products which are easy to maintain and reliable.

## 6. INFORMATION ON OUR GROUP (Cont'd)

All our products are meticulously designed, sourced, fabricated and installed to ensure the final products' usability, efficiency and productivity. Our Group believes that such achievement has been a result of the technical expertise, design quality and stringent supervision from the production process all the way to the project installation and commissioning at the location site. This is further evidenced by our Group's accreditation by TUV NORD Group for ISO 9001:2000 and its subsequent update to ISO 9001:2008.

Through our focus on technology development and innovation, we are able to offer our integrated products which automate palm oil milling functions for enhanced productivity and efficiency, provides a safer working environment, reduces unplanned maintenance and operation down-time as well as ensuring a process driven throughput for optimum productivity and fruit preparation to maximise oil recovery.

- (iv) Ability to provide total in-house solutions from process automation and controls to software development for the palm oil milling process

We believe that our competitive edge lies in our ability to provide a total in-house solutions from process automation and controls to electro, pneumatic and hydraulic engineering to software development. Our Group provides an end-to-end ecosystem for the palm oil milling machineries sector that promotes compatibility and seamless communication among each modules.

Behind the process automation and controls and electro, pneumatic and hydraulic modules lies our software system that runs and monitors various parameters associated with a palm oil milling process. Our Group has established an in-house software development team under Dolphin Systems to create a software system that measures, calibrates, collects, analyse and reports the result of each process step. Our Group's development of software programs has enabled customers to appropriately allocate resources to improve productivity, to reduce operational cost and to enhance the product quality. The central monitoring of key parameters of mill operations provided through real time and/or end cycle reporting enable mills to have better control and lower reaction time should operations fall below optimal operating conditions.

- (v) Growing presence in key CPO producing markets

Indonesia and Malaysia are the world's largest producers of CPO, supplying up to 90% of the world's consumption. The palm oil industries in both countries consist of the same industrial value chain from oil palm plantation, milling, refining and other downstream processing; therefore, the same production processes are applied throughout the value chain between Indonesia and Malaysia. With our location in Malaysia, we enjoy close proximity to the palm oil producing corporations which form our customer base. In addition, we have made inroads to the Indonesia, Thailand, Colombia, Papua New Guinea, Myanmar and India markets through our marketing efforts resulting in the sale of our products and solutions. We believe that the contacts arising from our marketing efforts provide us with in-depth knowledge of the local market conditions. This, coupled with our staff's technical proficiency, allow us to better fulfil the needs of our customers.

Over the past 20 years, we have managed to grow our customer base from solely serving the Malaysian market to a player that also caters to the Indonesian market. This is made possible from the increasing demand for our integrated solutions, as well as a testament of our track record in the industry. To date, although our main markets are that of the palm oil milling machineries sector in Malaysia and Indonesia, our experience in various palm oil milling machineries sectors in Thailand, Myanmar, India, Papua New Guinea and Colombia minimises the risk of depending on any one single market.

## 6. INFORMATION ON OUR GROUP (Cont'd)

Notwithstanding the aforementioned, our Group is strategically focused on Indonesia as the next pillar of growth market by establishing our first overseas subsidiary, PT Dolphin, in Indonesia in 2011. This is in line with the growth of Indonesia as the world's largest palm oil producer, with 608 POMs in the country with the capacity to process approximately 300.3 million tonnes of FFB as at 2010. Establishing PT Dolphin in Indonesia provides us with a platform to be closer to our local customers, and at the same time, better serve and cater to their needs and requirements. The export market generated approximately 79.30%, 83.05%, 36.83% and 23.35%, of our Group's revenue for the FYE 2011, FYE 2012, FYE 2013 and FYE 2014, respectively.

- (vi) Promoting sustainable growth via continuous R&D efforts

The objective of our Group's R&D is to maintain our competitive advantage by:

- (a) continuously enhancing existing palm oil milling technology and solutions as part of continuous improvement efforts; and
- (b) developing new technology for the palm oil milling process that offer better or new functions and economic value for our customers.

Our Group envisages that the future of the POM industry is not in the increasing of production capacities, but rather in the recovery of more palm oil from existing milling process and reducing the need for more plantations as land resource becomes increasingly scarce. Our Group believes that optimising palm oil recovery is the only sustainable solution and the only way to achieve this is through introducing game-changing innovations via continuous R&D.

Our Group has demonstrated its innovative leadership in the palm oil milling machineries sector, by being pioneers in offering automated hydraulics and pneumatics to reduce the use of labour whilst optimising the production process. Our Group is one of the leaders in the development of software programming specifically targeting the continuous operational improvement of the POM for greater efficiency and productivity. As disclosed in Section 6.15.3 of this Prospectus, our Group, together with UPM, recently introduced an automated sterilisation system, "Robo-REST" to the market, which improves performance in terms of efficiency in the sterilisation process and increase in palm OER.

### 6.17 QUALITY CONTROL

We believe that quality control is a key factor that contributed to our growth and success. Hence, quality control is an important management philosophy as we strive to maintain our reputation as a producer of quality products.

We have implemented stringent quality control measures at different stages of our business process. These quality control measures seek to ensure that the quality of our products and services meet the expectations of our customers and that our facilities provide a safe working environment for all our staff. Our quality control measures, from the sourcing and procurement of materials to the delivery of our finished goods, adhere closely to the ISO guidelines.

After the delivery of our products, our engineers ensure the proper functioning of our products after installation. We provide warranties of 18 months upon delivery or 12 months upon commissioning of our products, whichever comes first, for our products.

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**6. INFORMATION ON OUR GROUP (Cont'd)**

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Our commitment to quality is evidenced by our subsidiaries' QMS, namely Dolphin Engineering, Dolphin Applications and Dolphin Systems, being firstly accredited with ISO 9001:2000 in 2006 and subsequently with the updated ISO 9001:2008 by TUV NORD Group since 2009 for the design, supply, implementation and maintenance services of our SCADA system, hydraulic & automation system to the palm oil industry. Our ISO accreditation requires for Dolphin Engineering, Dolphin Applications and Dolphin Systems to be subject to annual audits in order to ensure our on-going conformity to the QMS process.

We have also put in place a quality control manual (which details the quality process and procedures which is in compliance with ISO 9001:2008) which we adhere to in our production processes.

As an automation systems integration solutions provider, product knowledge and proficiency is vital in ensuring the seamless integration of various system components, both mechanical and electrical. Our staff undergo vigorous training to familiarise themselves with our products and also attend product training courses.

Our QC team is chaired by our Head of R&D. They are responsible for quality control and ensuring that our quality control policies and measures are adhered to.

We conduct quality checks on all the products fabricated and oversee the implementation of the quality controls at every stage of our production process in line with our QMS. The following quality control procedures have been implemented in our production process in line with our QMS:

(i) Establishment of quality control standards

We have set in place stringent quality control standards to implement strict measures for quality control in the production of our products. Such standards follow strictly in accordance with the industry standards as well as the standards and guidance set in accordance with the ISO 9001 Quality System. We also take into account customers' specifications and requirements and quality feedback from our previous customers to supplement our quality control standards.

For our system design, we ensure the design of every project is carried out in line with (i) the relevant national laws and regulations; (ii) the relevant technical specifications and industry standards; and (iii) our customers' specifications and requirements.

(ii) Quality control during sourcing and procurement

Our vendors are selected through a process of formal audits and qualification by our procurement personnel, quality control personnel, together with a team of engineers, based on stringent selection criteria such as product quality, quality of their raw materials and services, material sources, pricing, timely delivery of products, accreditations, track record, financial condition and market reputation. For certain crucial direct materials used in our production, we may conduct site visits prior to the appointment as one of our selected vendors. The list of selected vendors is subject to further review by our key management on an annual basis. We monitor our vendors' performance to ensure that they meet our requirements on quality, pricing, delivery and responsiveness.

(iii) Quality control during production/fabrication process

Before the production/fabrication, incoming direct materials are subject to inspections by our quality control personnel to ensure that they are supplied by approved vendors, and that the quality, grade and quantity of such direct materials conform to our specifications and requirements as well as our quality control standards. Direct materials which fail to comply with these specifications will be rejected and returned to our vendors.

**6. INFORMATION ON OUR GROUP (Cont'd)**

We continuously monitor our production process and carry out inspections at systematic intervals throughout the process to ensure consistency in the quality of our products and components. Our quality control personnel and production personnel conduct tests and inspections at the various stages of production to ensure that defective semi-completed products do not proceed to the next stage of the production. Any defective part will be removed from the production line and rectified if possible, thereby minimising defective products from being produced.

As to system design, we will maintain close communication and engage constant discussion with our customers so that we can modify our engineering design in accordance with customers' feedback and requirements and relevant technical specifications and standards approved by the ISO, namely ISO 9001:2008, and avoid affecting the progress and quality.

(iv) Quality control on finished products

We conduct overall inspections and testing on finished products before they are painted, packed and stored in the warehouse, ready for despatch to customers.

In addition, after our products and components are sent to customers' POM sites, they undergo a series of inspections and testing to ensure compliance with our quality standards and customers' design and specifications.

Upon the successful testing and commissioning of our system design and components by our customers, the warranty period (which is usually a period of 18 months upon delivery or 12 months upon commissioning of our products, whichever comes first) commences and during this period, we will attend to any complaints regarding defects in the equipment or our products.

(v) After sales service and customer support

We maintain regular contact with our customers in our efforts to understand their business needs as well as to foster and maintain good business relationships and obtain feedback about our products and services. The follow-ups with our customers also form an integral part of our after-sales service and customer support. This allows us to be better positioned in understanding our customers' business needs and provide efficient after-sales service.

(vi) Review on our quality management system

To create a virtuous circle of our quality management system, we take into account the feedbacks from our employees who are involved in each of the quality control processes, as well as feedbacks on the performance of our products and system design from our customers. Thereafter, we review and improve upon our quality management systems to ensure quality products and services.

For the Period under Review and up to the LPD, we had not received any major complaints or rejections from customers of our products and services, namely complaints and rejections due to our products being not functional and/or whereby handover is rejected by our customers.

## 6. INFORMATION ON OUR GROUP (Cont'd)

### 6.18 HEALTH, SAFETY AND ENVIRONMENTAL MATTERS

Our compliance to the health, safety and environmental requirement and regulation are the essentials to ensuring the well-being of our employees, and the continuity of our day-to-day operations. Our Group has established a strong in-house policy on Health, Safety and Environment to provide a favourable working environment for our employees and to fulfil our role as a responsible corporate citizen.

Our management strongly believes that these matters are also fundamental to the well-being of our Group's operations and activities. Henceforth, even work locations comply with legislative requirements. It is our Group's corporate policy to provide a safe, healthy and friendly work place for all its employees and subcontractors.

All employees are required to exercise the requirements of our Group's safety and health policy. Notwithstanding the aforementioned, our Group has also ensured that appropriate plans are always in place to deal with any emergencies.

### 6.19 MARKETING AND DISTRIBUTION NETWORK

As at the LPD, our sales and marketing division comprises of 7 full time employees led by our Sales and Marketing Director, Lee Kim Teck. They are trained and equipped with the technical knowledge and competencies to effectively market our products and services to our customers.

Our Group markets its products directly from our four offices, namely our head office located in Puchong, Selangor, our other offices are located in Cyberjaya, Selangor and Lahad Datu, Sabah and our overseas office in Jakarta, Indonesia. Our Group is able to compete with local and other international players by being a provider of automation, mechanical engineering and software solutions, specifically targeting the palm oil milling machineries sector. Our Group has been able to garner a growing customer base in Malaysia and Indonesia due to our quality and timely delivery of products and comprehensive after-sales services that includes training and maintenance.

Our projects are secured via a direct negotiation process or via a tender. We would go through the information gathered on our prospective customer and proposed project to evaluate the requirements of the prospective customer prior to submission of a proposal or tender. A large part of the marketing strategy involves identifying and evaluating an existing customer's operations in order to be able to provide substantial evidence on our products' advantages and benefits.

During the Period under Review, our Group has accumulated a customer base of approximately 116 customers. As automation of the palm oil industry is a relatively niche market, our marketing network is based around our existing customers as many of them seek to upgrade other POMs owned by them. New customers are also referred to our Group by our existing customers via word-of-mouth recommendations based on our reputation, track record and quality of products.

We adopt 4 key principle strategies to effectively market our Group's product, especially to new customers with no prior knowledge of our Group or our products:

- Education

When we engage with potential customers and consultants, we educate them to realise that there are new technologies that can revolutionise the POM manufacturing process to create greater efficiency and productivity which would translate into cost savings for the POM.

## 6. INFORMATION ON OUR GROUP (Cont'd)

- Proven Technology

Product demonstration to potential customers and consultants at the POMs of our existing customers to demonstrate to them the level of efficiency, productivity, cleanliness and safety of our Group's products as compared to conventional palm oil milling systems. Our Group also documents pre-installation and post-installation reports to substantiate our products' superiority over conventional palm oil milling systems in terms of efficiency, productivity, cleanliness, safety, maintenance required and palm OER.

- Communication

Communication is key and is an essential tool in educating, convincing and negotiating with any prospective customer. Our communication strategy is to ensure that all benefits and advantages of our products and services offered are communicated clearly to our prospective customers and all questions have been addressed.

- Customer's Testimonials

Independent testimonials offered by our customers have proven to be reliable and convincing alternative source of information and validation of our products and services. Our reputation for being a reliable provider of milling systems and software for the palm oil milling machineries sector can be further enhanced via word-of-mouth advertising.

### 6.20 SEASONALITY

Our Group's business portfolio comprises primarily of private sector customers within the domestic and international palm oil milling industry. Our revenue is not affected by any seasonality in the demand of our products and services.

However, as stated in Section 5 of this Prospectus, being the Industry Overview prepared by the IMR (please refer to pages 51 to 53 of the Executive Summary of the IMR Report), the palm oil milling machineries sector trends in Malaysia and Indonesia are cyclical according to the replacement and upgrade lifecycles of milling equipment and plants. Nonetheless, our Group's business is historically and currently not adversely affected by the aforementioned due to the following reasons:



- (a) While any POM would have its own replacement and upgrade lifecycle of milling equipment, one particular POM would have a different lifecycle from another POM even of the same specification depending on the extent of which the POM owner is maintaining the POM. The durability of the various parts and components of the equipment in a particular POM would also be another factor affecting its lifecycle;
- (b) The POMs in the industry were all not commissioned at the same time period and coupled with the reason in (a) above, the POMs replacement and upgrade lifecycle of the milling equipment differs among each other;
- (c) As stated in the "Outlook of the Palm Oil Milling Machineries Sector in Malaysia and Indonesia" in the IMR Report, Malaysia and Indonesia are expanding its oil palm plantation and milling activities, which would further increase the demand for palm oil milling machineries; and
- (d) There is a growing trend amongst palm oil millers to improve palm oil milling technology and practices to support sustainable palm oil and to increase productivity and profits which would also increase the demand for palm oil milling machineries.



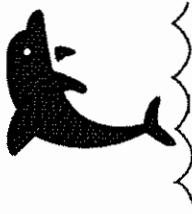


**6. INFORMATION ON OUR GROUP (Cont'd)**

**6.21 INTELLECTUAL PROPERTY RIGHTS**

Save for the patents, trademarks and copyrights as disclosed below, we have no other registered patent and trademark:

No.	Proprietor	Patent / Trademark / Copyright	Class	Description of class / patent	Date registered/ Expiry date/ Notification date/ Country of recognition
1.	Dolphin Engineering	 Trademark No. 04015316	7	Mechanical, Hydraulic and Pneumalical Machines and Apparatus for Palm Oil Milling and Processing, Water Purifying Process, Sewage Treatment and such other process related thereto; Machines and Apparatus for Hydraulic and Pneumalical Systems, Hydro Inline Booster System; Control Mechanism, Automatic Machines and Apparatus, Hydraulic Controls, Pneumatic Control for Machines, Apparatus and Parts and Fittings for the aforesaid Goods; All included in Class 07.	Date registered: 7 October 2004 Expiry date: 7 October 2024 Country of recognition: Malaysia
2.	Dolphin Engineering	 Trademark No. 2012019342	37	Installation, maintenance, upkeep, repair and consultation services in the field of palm oil industry; all included in Class 37.	Date registered: 16 November 2012 Expiry date: 16 November 2022 Country of recognition: Malaysia

## 6. INFORMATION ON OUR GROUP (Cont'd)

No.	Proprietor	Patent / Trademark / Copyright	Class	Description of class / patent	Date registered/ Expiry date/ Notification date/ Country of recognition
3.	Dolphin Engineering	 ® Trademark No. 2012019343	42	Computer software design, installation, maintenance and or updating of computer software; computer systems analysis; hosting web sites, design of web sites and software applications on global computer networks and local and internal business computer networks; R&D; technical project studies; technical research; provision of information, management, consultancy, and advisory services relating to all the aforesaid services; all included in Class 42.	Date registered: 16 November 2012 Expiry date: 16 November 2022 Country of recognition: Malaysia
4.	Dolphin Engineering	 ® Trademark No. 2012019344	16	Printed matters such as letterheads, name cards, pamphlets, catalogues, brochures, leaflets, postcards, printed forms, pictures, posters, periodicals, books, magazines, newsletters, signboards, diaries, paper, cardboards, bill boards advertisement boards of paper or cardboard, bag (envelopes, pouches) of paper or plastics for wrapping and packaging, business publication and information, posters; all included in Class 16.	Date registered: 16 November 2012 Expiry date: 16 November 2022 Country of recognition: Malaysia
5.	Dolphin Engineering	 ® Trademark No. 2012019345	9	Computer Software and Programmes for Managing Computer Systems, Databases and Applications, namely, providing Data Management, IT Process Automation, Application Management, Storage and Performance Optimization and Recovery of Mainframe and Distributed Systems Computers and the Databases and Business Application, Programmes and Systems that operate therein; All included in Class 9.	Date registered: 16 November 2012 Expiry date: 16 November 2022 Country of recognition: Malaysia