#### 5. BUSINESS INFORMATION

#### 5.1 HISTORY

Perisai was incorporated in Malaysia on 30 October 2003 under the Act as a public limited company under its present name. Perisai is an investment holding company. Its subsidiary companies and associated company are involved in the manufacturing, supplying, commissioning and installation of corrosion control products as well as the inspection and maintenance of pipes, pipelines, risers and heat exchangers primarily for the oil and gas industry.

The history of the Perisai Group dates back to 1994 with the incorporation of ISSB. At that time, ISSB was involved in the development and exploitation of marine growth removal and prevention systems. With continual R&D, the Perisai Group gradually moved from providing low technology corrosion control products and solutions towards providing higher technology corrosion control products and solutions. With the incorporation of CSSB in 1996, the Group entered into its first technical collaboration with PRSS, whereby PRSS had provided the facilities for the testing of CSSB's new products. The collaboration had resulted in the development of various efficient and cost effective corrosion control products and solutions, such as Corro-Cap<sup>TM</sup>, FlangeShield<sup>TM</sup> and Riser Clamp Shield<sup>TM</sup>, which are patented or currently pending confirmation for patent.

Further information on the Perisai Group's products and solutions is set out in section 5.3.2 of this Prospectus.

Several corrosion control products and solutions developed by the Perisai Group have been verified for its effectiveness in controlling corrosion by independent accreditation bodies. For example, in March 1997, the Lloyd's Register endorsed the vacuum seal cap, namely CorroCap<sup>TM</sup>, as being effective in combating corrosion. The Riser Clamp Shield<sup>TM</sup> developed by the Perisai Group, which was first installed in 1998, was independently verified by DnV two and a half years later to be effective in preventing corrosion.

CSSB was awarded the vendor status under the PETRONAS VDP in May 2000 to manufacture, supply and install protective systems for corrosion prevention services. The scope of the products included in the VDP was extended in February 2002 to include the inspection and maintenance of all nuts and bolts, pipe flanges, pipe supports, and risers/riser clamps.

The Perisai Group continues to collaborate with PRSS and DnV to develop new corrosion control products and solutions and improve on existing products and solutions in an effort to capture a wider market for its products and solutions.

# 5.2 SHARE CAPITAL

The present authorised share capital of Perisai is RM50,000,000 comprising 500,000,000 Shares, of which 156,000,000 Shares have been issued and fully paid-up. The changes in the issued and paid-up share capital of Perisai since its incorporation are as follows:

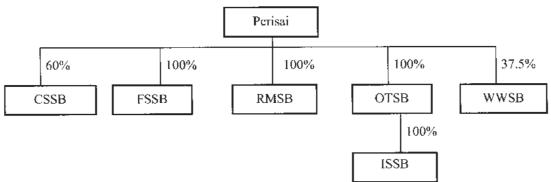
Date of allotment	No. of Shares allotted	Par value (RM)	Consideration	Cumulative issued and paid-up share capital (RM)
30.10.2003	20	0.10	Cash	2
31.05.2004	155,999,980	0.10	Consideration for Acquisitions	15,600,000

# 5.3 BUSINESS OVERVIEW

# 5.3.1 Group structure

The Perisai Group's structure is as follows:

Effective



The subsidiary companies and associated company of Perisai and their respective principal activities are as follows:

Company	equity interest held (%)	Principal activities
CSSB	60	Manufacturing, supplying, commissioning and installation of corrosion control products and related services primarily for the oil and gas industry
FSSB	100	Trading, design and application of specialist composite materials primarily for the oil and gas industry
RMSB	100	Provision of services relating to advanced engineering inspection techniques, heat exchanger tubes restoration technology and plants engineering maintenance primarily for the oil and gas industry
OTSB	100	Design and engineering and patent holder
ISSB <sup>(1)</sup>	. 100	Design and consultancy service and patent holder
WWSB	37.5	Provision of environmentally friendly hydrocarbon mitigation services primarily for the oil and gas industry

Note:

(1) Wholly-owned subsidiary of OTSB

Please refer to section 5.4 of this Prospectus for further information on the subsidiary companies and associated company of Perisai.

#### 5.3.2 Products and solutions

The following are the products and solutions provided by the Perisai Group:

Types of protection	Products / Solutions	Companies offering products / solutions
Cavity protection	<ul> <li>Corro-Cillin™</li> <li>CS 85MP™ &amp; CS 105MP™</li> </ul>	CSSB CSSB
Nuts and bolts preservation	<ul> <li>CorroCap<sup>TM</sup></li> </ul>	CSSB
Flange piping preservation	FlangeShield™	CSSB
Riser clamp preservation	<ul> <li>Riser Clamp Shield™</li> </ul>	CSSB
Rehabilitation of corroded risers and pipes		
<ul> <li>mildly corroded risers and pipes</li> </ul>	• Fibaroll*	CSSB / FSSB
<ul> <li>severely corroded risers and pipes</li> </ul>	Composite Sleeve Repair	CSSB / OTSB
Marine growth removal and prevention systems	<ul> <li>Marine Growth Impactor &amp; Marine Growth Pile Protector</li> </ul>	CSSB / OTSB
Heat exchanger protection	• CTI Shield <sup>TM*</sup>	RMSB
Volatile organic compound suppressant and encapsulation of hydrocarbon fluid	BioSolve®*	WWSB

Note:

Products developed by third party

Further descriptions of the above products and solutions are set out below:

#### Products and solutions developed by the Perisai Group

# (i) Corro-Cillin<sup>TM</sup>

Corro-Cillin<sup>TM</sup> is a specially blended formulation of modified waxes containing organic corrosion inhibitors and thixotropic enhancing agents for long term cavity protection. The formulation was developed by CSSB's R&D team and is proprietary to CSSB only. CSSB purchases the basic wax compound from third party and blends the wax with other organic ingredients. Corro-Cillin<sup>TM</sup> also contains ultraviolet traces, which under an ultraviolet light causes a light blue fluorescence for checking treatment. This product requires no heating or disposal as it dries to an almost transparent film. Currently, this product is widely used in Corro-Cap<sup>TM</sup>, FlangeShield<sup>TM</sup> and Riser Clamp Shield<sup>TM</sup> applications as a protective coating to the structure surface.

Please see sections 5.3.2(iii), 5.3.2(iv) and 5.3.2(v) of this Prospectus for descriptions of CorroCap™, FlangeShield™ and Riser Clamp Shield™ respectively.

CSSB will continue to experiment the viability of using Corro-Cillin™ (or modifications or improvements to this wax formulation) for other corrosion control products which it intends to develop and introduce to the market in the future.

## (ii) CS 85MPTM and CS 105MPTM

CS 85MPTM (melting point 85° Celsius) and CS 105MPTM (melting point 105° Celsius) are unique blends of petroleum waxes, oil and inhibitors with the ability to withstand high ambient temperature. The formulation was specially developed by CSSB's R&D team and is proprietary to CSSB only. Once applied to fasteners, it would protect and further prolong the life span of the fasteners. These products are non-flammable and non-toxic with non-volatile organic compounds, making it ideal for use in the oil and gas environment. CS 105MPTM is different from Corro-CillinTM as the former is in a solid state below its melting point and thus needs to be melted for application purposes while the latter is of lower viscosity and can be sprayed onto the designated surfaces at room temperature where it dries to an almost transparent thin film. However CS 105MPTM is thicker and more durable than Corro-CillinTM and thus offers a more permanent protective layer whereas Corro-CillinTM, on its own, only offers temporary protection against corrosion.

CS 105MP<sup>TM</sup> is melted into liquid form, which fills all spaces leaving no voids or entrapped air, thereby preventing any ingress of moisture or water on the protected areas. Common applications include hard to treat inner void spaces on flanges and other joined metal surfaces, anchor chain lockers, riser clamps, J-tubes, under pipe saddle clamps and braces.

CS 105MP™'s unique properties makes it a vital component in the major corrosion control products developed by CSSB, namely CorroCap™, FlangeShield™ and Riscr Clamp Shield™ as a protective coating to the structure surface.

Please see sections 5.3.2(iii), 5.3.2(iv) and 5.3.2(v) of this Prospectus for descriptions of CorroCap<sup>TM</sup>, FlangeShield<sup>TM</sup> and Riser Clamp Shield<sup>TM</sup> respectively.

# (iii) CorroCap<sup>TM</sup>

Due to the high exposure to salty water and air, humid, harsh and volatile weather condition of offshore installation and plant working environment, corrosion of industrial bolts and nuts installed in offshore oil and gas structure and in petrochemical plants is inevitable.

Corrosion of nuts and bolts will ultimately lead to fastener gasket sealing failure. When this occurs, leakage of hydrocarbon fluids and / or gases which the pipe structure delivers occurs. In severe cases, this results in major disaster as the hydrocarbon fluids and / or gases are flammable and therefore could cause explosion. Furthermore, hydrocarbon gases may contain toxic which results in loss of human life or injury when inhaled by personnel working on the platform. Therefore, it is essential that corroded bolts and nuts be changed during maintenance schedule to avoid leakage or damage to equipment.

CSSB together with RIL and PRSS developed a vacuum-sealed cap for fasteners called CorroCap<sup>TM</sup> in 1996. Initially, CorroCap<sup>TM</sup> was produced using neoprene material which is able to withstand temperature up to 85° Celsius and is excellent protection against ozone and oxidation within the marine environment. The continuous R&D efforts by CSSB and PRSS has lead to the invention of a new formulated silicon based CorroCap<sup>TM</sup> in 2001 which can endure heat temperature up to 105° Celsius. Currently, CSSB has exclusive rights to manufacture, market and supply CorroCap<sup>TM</sup> throughout the world.

The characteristic that makes CorroCap<sup>TM</sup> unique is the incorporation of a one way valve that allows air, water and excess inhibitors to escape creating a near vacuum scal thereby enhancing corrosion protection. CorroCap<sup>TM</sup> has been designed and manufactured to meet the technical challenges of offshore engineering and helps to extend the useful life of the nuts and bolts and reduces the time spent on regular inspection and maintenance.

CorroCap<sup>TM</sup> is used together with Corro-Cillin<sup>TM</sup> and CS 105MP<sup>TM</sup>. Corro-Cillin<sup>TM</sup> is applied on the nuts and bolts as a first layer of protection followed by CS 105MP<sup>TM</sup> as a second layer protection prior to the installation of CorroCap<sup>TM</sup>.

#### (iv) FlangeShield<sup>TM</sup>

Offshore oil and gas operations use flange piping as a convenient way to construct pressure piping. However, the shortcoming of pipe flanges is that the corrosion between the unpainted and uncoated inside surfaces between the flanges, stud bore holes and the crevices in the nuts are difficult to control. When blasting (to get rid of rust) is carried out for corrosion control purposes, it is impossible to achieve good surface preparation on flanges which are inaccessible to the blast medium. It is not uncommon to find residual blasting sand or grit lodged between the fasteners and the flange body, or up inside the bolt hole annuli. This grit acts like a sponge to retain water inside the flange and thus promotes rapid failure of the applied paint system. The corrosion will cause early paint failure and can compromise the structural integrity of the flange.

CSSB developed a method called FlangeShield<sup>TM</sup>, which involves injecting CS 105MP<sup>TM</sup> to temporarily fill the void. The material is heated to lower its viscosity allowing it to penetrate all the crevices. FlangeShield<sup>TM</sup> contains ultraviolet tracers, which under ultraviolet light causes a light blue fluorescence for checking treatment. The excess material is then sucked out leaving a coating on the pipe flanges. The FlangeShield<sup>TM</sup> system does not contain volatile organic compounds and employs a non-toxic, non-flammable, environmentally safe rust converting compound specifically designed for use in the marine environment. FlangeShield<sup>TM</sup> also incorporates the use of CorroCap<sup>TM</sup> for the protection of bolts and nuts located at the flanges.

FlangeShield<sup>TM</sup>'s unique application method results in all the exposed areas and crevices of the flange being coated with CS 105MP<sup>TM</sup> which bonds to the surface therefore providing superior protection against corrosion compared to the traditional methods.

Although the cost of implementing a FlangeShield<sup>TM</sup> system on a new offshore platform may be more expensive than using traditional paints and coatings, the long term benefits of using FlangeShield<sup>TM</sup> are in the form of lower inspection and maintenance costs due to lower frequency of inspection and less repair and replacement costs.

## (v) Riser Clamp Shield<sup>1M</sup>

Riser clamps require periodic inspection, replacement of nuts, bolts, clamps and neoprene pads resulting in operation shut down of the offshore rig and thus production downtime. Due to splash zone corrosion, extreme cases parts of corroded risers have to be cut and replaced. The neoprene pads, placed between the clamps to prevent metal to metal contact, trap moisture and force the paint designed for splash zone conditions to work in submerged conditions resulting in premature coating failure. Progressive failure of coating is not only economically impacting but can compromise the structural integrity of the riser.

CSSB combined several of its proprietary products to develop a methodology for riser clamp protection call Riser Clamp Shield<sup>TM</sup>. The initial level of protection involved the spraying of three coats of Corro-Cillin<sup>TM</sup> to protected areas. All nuts and bolts are then protected by Corro-Cap<sup>TM</sup>, voids and crevices are filled using the FlangeShield<sup>TM</sup> system. Finally, the entire protected area is coated with Corro-Shield CS105MP<sup>TM</sup>.

The advantage of this protection system is that it offers cost effective corrosion solution and an aesthetically pleasant look to the riser clamp. DnV, in August 2000, performed an inspection of the first Riser Clamp Shield™ installed by CSSB for a Carigali platform in May 1998 and issued a report confirming that the Riser Clamp Shield™ has effectively prevented corrosion for the two and half year period post installation.

Although the cost of implementing a Riser Clamp Shield<sup>TM</sup> system on a new offshore platform may be more expensive than using traditional protection methods, the long term benefits of using Riser Clamp Shield<sup>TM</sup> are in the form of lower inspection and maintenance costs due to lower frequency of inspection and less repair and replacement costs.

# (vi) Composite Sleeve Repair

As mentioned previously, offshore oil and gas and marine operations have to address maintenance problems associated with risers and pipes due to corrosion and the problems associated with blasting (to get rid of rust) such as damage and metal loss to the risers. If the metal loss is not severe, the operator can opt for the simpler Fibaroll solution as in (viii) below.

However, when the metal loss to the riser exceeds 70%, the operating pressure of the pipe needs to be downgraded resulting in decreased operational efficiency. Furthermore, the platform operator would need to seek a permanent repair to remedy the situation before pipe leakage occurs which may result in injury or loss of human life due to explosion of the hydrocarbon fluids and / or gases being leaked out or inhalation of possible toxic gas arising from the leakage.

Permanent repair or rehabilitation of oil and gas pipeline and riser can be very costly due to the use of expensive technology which involves cutting and replacing parts of the risers and pipes and therefore require the shutdown of operations which results in costly operations downtime.

To rehabilitate severely corroded risers and pipes, OTSB and PRSS developed a composite sleeve technique that incorporates, the innovative combination of advanced composite material, namely Fibaroll with high performance epoxy resin together with oversized steel sleeves and specially designed graphite end seals, as a total solution for rehabilitation of severely corroded risers and pipes. The epoxy essentially consists of a load bearing epoxy resin filler mixed with load bearing polyamines, such as Diethyltoluenediamine, Butylphenol and Salicyclic acid. The physical properties allow its use in applications requiring high load bearing strength and excellent adhesion under adverse application conditions. The product has a long working life and a low exothermic reaction (that is, minimal heat generation during cure) that make it suitable for applications where a relatively large mass of adhesive is employed.

Just as CSSB's other systems, the Composite Sleeve Repair system will result in lower total ownership cost for the operator in the long term due to less frequent inspection and lower maintenance and repair costs and the ability to avoid shutdown compared to other systems.

CSSB performed its first Composite Sleeve Repair engagement for Sarawak Shell in August 2002. The structural integrity of the sleeve repair was inspected by DnV and pursuant to its report dated 25 September 2002, DnV confirmed the structural integrity of the Composite Sleeve Repair and also confirmed that the composite sleeve is expected to have a lifespan of 20 years under normal working conditions.

In April 2003, CSSB was awarded its first overseas permanent Composite Sleeve Repair job worth approximately RM2.6 million from Brunei Shell. This engagement is the first underwater installation of a permanent sleeve repair under 34 meters of seawater without operational shutdown.

## (vii) Marine Growth Impactor and Marine Growth Pile Protector

Marine growth has become a scrious problem for offshore operators and platform designers today. Marine growth causes premature damage to coating. It obscures the substratum and has to be removed before yearly inspection. Even small amounts of marine growth will significantly increase wave loading and require stronger structures than would otherwise be necessary. Depending on the type of growth, biofoulants can weigh up to 150 pounds per cubic foot. It becomes dangerous, since it creates added area for wave loading, and drastically reduces the fatigue life of a platform. The danger of platform overturn is therefore increased.

ISSB and PRSS jointly developed the Marine Growth Impactor and Marine Growth Pile Protector to address the problems arising from marine growth. Currently, these products are manufactured, marketed and installed by CSSB.

Marine Growth Impactor is a specially designed modular equipment (with patent protection) which can be easily customised to suit different dimensions and shapes of various offshore structure pile. This equipment utilises the natural force of the sea (wave and current) to move up down and side way to generate necessary impact toward the structure to remove the marine growth. The impactor helps oil and gas operators to save cost on periodic maintenance or diving operation to eradicate marine growth, before inspection and marine non destructive testing are carried out.

Marine Growth Pile Protector, a different design variation from Marine Growth Impactor, relies on breaking down the marine colonisation process. The continuous rubbing of the rubber rollers attach with the platform structure pile by wave and current movement prevents the formation of microbial slime, the food source for marine organisms. By denying the marine growth the essential nutrients, the structure piles are able to maintain a "zero growth" profile. This is particularly critical in the splash zone areas as cathodic protection systems are ineffective.

#### Products and solutions developed by third party

#### (viii) Fibaroll

Offshore oil and gas and marine operations have to address maintenance problems associated with risers and pipes due to corrosion and the problems associated with blasting (to get rid of rust) such as damage and metal loss to the pipes. In the absence of a good solution, rusting and corrosion will continue and persistent blasting will result in the metal loss become severe and in the case of risers and pipes, replacements are required in the event the metal loss exceeds 50%.

Fibaroll is an advanced form of Fibre Reinforced Plastic; it is widely used as structural and lining material as it does not corrode. There are two main elements to the Fibre Reinforced Plastic material, namely the resin and the reinforcement. The resin is a molecule which when cured by ultraviolet or sunlight, forms a complex cross-linked three dimensional structure with very good structural strength. The reinforcement within the composite is usually glass fibre. The glass does not react,

but is specially coated to give good adhesion to the resin. The reinforcement basically adds structural support to hardened resins thus increasing the structural strength of the Fibaroll composite.

Fibaroll cures pipe that has severe pitting and needs rebuilding and has or is in danger of developing leaks. Its wide range of chemical resistance can withstand chemicals and temperatures from product within the pipe and prevent further corrosion form the outside.

Fibaroll is developed by Fiba Tech Industries Ltd, a UK based company. FSSB was awarded by Fiba Tech Industries Ltd the exclusive selling and application rights in respect of Fibaroll materials in the territories of Malaysia, Brunei, Thailand (for all sectors) and Singapore (civil structure and shipping sectors only). For further details on the agreement, please refer to section 17.7 of this Prospectus. In rendering its services, CSSB purchases Fibaroll from FSSB.

The Perisai Group has successfully exploited Fibaroll's special properties to provide repair and rehabilitation solutions to heavily corroded risers and pipes in offshore oil and gas operations.

# (ix) CTI SHIELD<sup>TM</sup>

Heat exchangers are mechanisms (containing many metal tubes) which are used to transfer heat from one location or instrument to another normally through a fluid medium. By virtue of their function, heat exchangers may contain fluid at very high temperatures and some of these fluids may be chemicals. Thus, the tubes within the heat exchangers are highly susceptible to corrosion.

On 19 June 2001, CTI Industries Inc., a USA based company which developed a revolutionary way of restoring the tubes of damaged heat exchangers and condensers appointed RMSB as an exclusive agent to supply, install and commission its products in Malaysia and Brunei. For further details on the agreement, please refer to section 17.7 (ix) of this Prospectus. The product is known as CTI Shield<sup>TM</sup> which is a thin-walled metallic tube insert made of highly durable alloy.

Once inserted in the original tube, CTI Shield<sup>TM</sup> is mechanically and hydraulically expanded and becomes an integral part of the original tube. There are many different types of alloy combinations to select from for purpose of corrosion resistance, depending on the type of metal the original tube is made of and the type of chemical being carried by the tube. CTI Shield<sup>TM</sup> is also designed to overcome end step corrosion.

Due to the cost effectiveness of CTI Shield<sup>TM</sup> against the existing competing products, RMSB uses this product for its offshore platform clients in connection with the inspection, maintenance, repair and restoring tubes in heat exchangers.

# (x) BioSolve®

The traditional method for the removal of hydrocarbon fluid for the oil and gas industry structure is not environmental friendly.

The Westford Chemical Corporation, a USA based company developed BioSolve® and WWSB is the exclusive authorised distributor of the product in Malaysia and Brunei. BioSolve® is a patented water based bio-remediation surfactant, which is non-hazardous, non-flammable and biodegradable, specially engineered as a clean-up and mitigating agent on hydrocarbons and hydrocarbon based products. BioSolve® solublises, emulsifies and separates the hydrocarbons into exceptionally small micro emulsions while surrounding them into the water based solution. These actions render volatile hydrocarbons non-flammable and at the same time greatly stimulate

bioremediation of the hydrocarbon by increasing the end chain exposure created by the micro emulsions. This makes the hydrocarbon a readily available and easy to assimilate food source for bacteria. These actions make BioSolve® a unique, versatile, and environmentally supportive technology for use in fuel and oil spill cleanup, fire fighting, fuel and oil spill remediation, vapour suppression and general cleaning / degreasing applications.

# 5.3.3 Competitive advantage

Under the VDP, CSSB has a monopoly for the supply and installation of corrosion protection systems on all fasteners, flanges, riser clamps and pipe supports on Carigali's offshore platforms and those of PETRONAS' PSC contractors, offshore facilities in Malaysia as well as operations owned by PETRONAS or its subsidiaries. Although awarded under the VDP scope on 25 May 2000, the full implementation of the Vendor Status came much later upon the conclusion of the Master Service Agreement and the award of the individual contracts from PETRONAS' PSC contractors, namely, *inter alia*, Carigali, ExxonMobil, Shell and Nippon Oil for the provision of corrosion control services in May / June 2003. The Master Service Agreement provides the basis of the said contracts between PETRONAS' PSC contractors and CSSB. Each contract is for a duration of 3 plus 2 years from the date of the respective contracts.

It should be highlighted that the scope of the VDP is not restricted to offshore oil & gas operations alone. It also applies to all operations owned by PETRONAS or its subsidiaries which may be onshore such as, oil & gas refineries and petrochemical plants or marine related operations such as, shipping operations, subject to the need for such services covered by the VDP and the available resources of CSSB.

The VDP was established by PETRONAS to encourage the development of Bumiputera entrepreneurs. The major conditions for a company to be appointed as a vendor under the VDP are as follows:

- At least 70 percent of the company's equity is to be held by Bumiputeras
- The management must be of Bumiputera majority
- The owner and operator must hold 51 percent of the company's equity
- Registered as a private limited company under the Act
- Must have a minimum paid-up capital of RM100,000

Another of the Group's competitive edge is its highly skilled key technical personnel. Tengku Daud Shaifuddin bin Tengku Zainudin, the Group Executive Director and Head of the R&D team has 15 years of experience in the oil and gas industry. The other key technical personnel eg. Juhari bin Husin and Zamri bin Zakaria possess in excess of 10 years of experience each in the oil and gas industry.

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# 5.3.4 Principal place of business and location of principal assets

The principal places of business (all of which save for the head office are presently rented) of the Perisai Group are as follows:

# (i) Head Office

Lot No.9 Jalan P10 / 15 Kawasan Perindustrian MIEŁ Fasa 4 43680 Bandar Baru Bangi Selangor Darul Ehsan

# (ii) Kajang Office

29 Jalan Seksyen 1 / 23 Taman Kajang Utama 43000 Kajang Selangor Darul Ehsan

# (iii) Kertih Office

K-7135 1<sup>st</sup> Floor Persiaran Guntong Bandar Sri Kerteh Kerteh 24300 Kemaman Terengganu Darul Iman

# (iv) Miri Office

2<sup>nd</sup> Floor Lot 2922, MCLD Faradale Garden Jalan Bulan Sabit 98000 Miri Sarawak

# 5.3.5 Production capacity

The production capacity, the number of production shifts and total production output of the Group's various production and assembly lines for the financial year ended 31 December 2003 are outlined below:

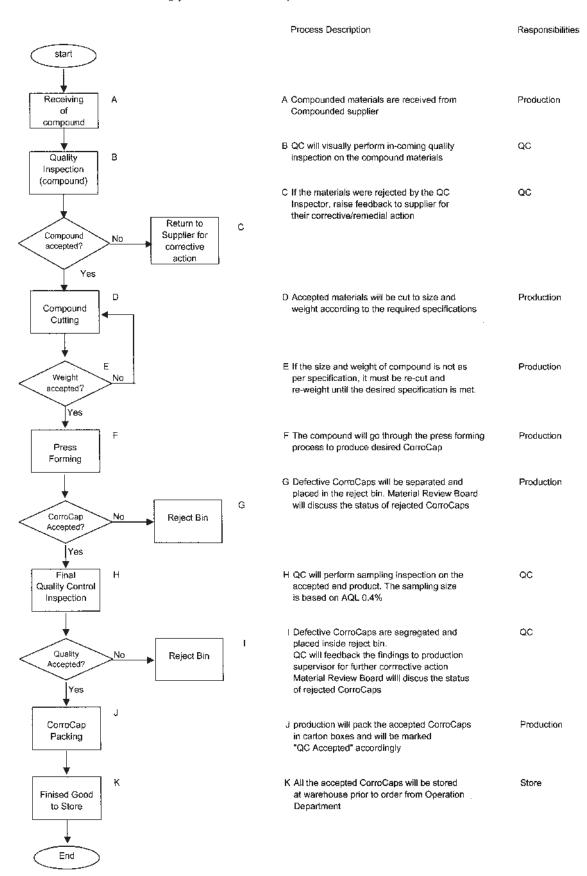
	Number of units	Number of production shifts (per day)	Production capacity (per month)	Production output (per month)
Heat compression moulding machine – For production of CorroCaps <sup>TM</sup>	2	1	180,000 pieces <sup>(1)</sup>	15,000 pieces

Note:

(1) Based on 3 shifts

# 5.3.6 Manufacturing Process

The manufacturing process for CorroCaps<sup>TM</sup> is set out below:



#### 5.3.7 Raw materials

The Perisai Group's main raw materials which contribute more than 10% of the Group's total purchases for the financial year ended 31 December 2003 are set out below:

Material	Country of Origin	<b>Total Purchases</b>
Fibre reinforced plastics	UK.	46.0%
Biosolve®	US	15.2%
Silicone	Malaysia	14.4%
Waxes	UK	12.6%
	-	88.2%

These products are generally purchased on a short term contract basis. Perisai practices a "Just in time" policy in respect of the raw materials sourced locally (i.e. the raw materials are purchased when contracts are awarded) and maintains a 4 month stock pile for raw materials which are sourced overseas.

Fibre reinforced plastics and BioSolve® are third party products. CSSB has the exclusive rights to the application and marketing of BioSolve® for the oil and gas industry in West Malaysia and the exclusive selling and application rights of fibre reinforced plastics in Malaysia.

To date, the Perisai Group has not experienced any difficulty in sourcing its raw materials. For further details on the Group's reliance on third party products and solutions, ie. Fibaroll and Biosolve®, please refer to section 4.10 of this Prospectus.

# 5.3.8 Product quality

The Perisai Group implements stringent quality control procedures throughout its operations to ensure the high and consistent quality of its products and solutions. Quality control inspection occurs at various stages of operations, with the first being the inspection of incoming raw materials. As part of the quality control procedure, a sample is taken from each batch of the delivered raw materials and tested to check on its conformity with the Group's specifications. Following which, several quality control test points are incorporated into the manufacturing process to ensure that every product of the Group conforms to the highest order of quality prior to sale to its customers.

The products and solutions of the Perisai Group have been independently verified by various independent international accreditation bodies to conform to international standards in terms of their effectiveness in controlling and preventing corrosion and cost efficiency as well as recognition from independent market publication for their cost effectiveness. Some examples of such verifications are as follows:

Products / Solutions	Endorsement / Recognition
CorroCap <sup>TM</sup>	Independent accreditation of vacuum seal caps as an effective anti-corrosion product by Lloyd's Register on successful laboratory tests in accordance with ASTM B117 and ASTM B610-86.
FlangeShield <sup>TM</sup> Riser Clamp Shield <sup>TM</sup>	Petromin, an established independent market publication of upstream oil and gas magazine in the Asia Pacific region, published statistics in its October 2001 publication to show that while the cost of implementing FlangeShield <sup>TM</sup> and Riser Clamp Shield <sup>TM</sup> systems on a new offshore platform is higher than the

#### **Products / Solutions**

#### **Endorsement / Recognition**

traditional paint and coatings, in the longer term, it is more cost efficient due to the lower frequency of inspection and less repair and replacement costs arising from the use of FlangeShield<sup>TM</sup> and Riser Clamp Shield<sup>TM</sup> systems.

DnV inspected a Carigali offshore platform two and a half years after it was treated for corrosion using the Riser Clamp Shield<sup>TM</sup> system and confirmed that Riser Clamp Shield<sup>TM</sup> has effectively prevented corrosion since its installation.

Composite Sleeve Repair The structural integrity of the sleeve repair performed by CSSB for Sarawak Shell Berhad was inspected by DnV and pursuant to its report dated 25 September 2002, DnV confirmed the structural integrity of the Composite Sleeve Repair and also confirmed that the composite sleeve is expected to have a lifespan of 20 years under normal working conditions.

# 5.3.9 Operating licences

The major operating licences held by the Perisai Group under its operating subsidiary companies are as follows:

- (i) Both CSSB and RMSB are licenced contractors of PETRONAS, whereby CSSB is licenced to manufacture, supply and install protective systems for corrosion prevention (including inspection, surface preparation and maintenance) on all nuts and bolts, pipe flanges, riser or riser clamps and pipe supports to oil and gas exploration and production companies in Malaysia and the provision of underwater engineering construction and maintenance services while RMSB is licenced to supply various equipment and provide services to oil and gas exploration and production companies in Malaysia;
- (ii) CSSB and RMSB are licenced contractors of MoF, whereby CSSB is licenced to supply various products and services for corrosion prevention for chemical industry and supply parts and services related to chemicals and corrosion control and RMSB for the provision of equipment or services relating to the power generating plant, heat exchanger and / or spare parts, cleaning of buildings, machinery and workshop equipment, machinery and special equipment and diving services; and
- (iii) CSSB also holds a manufacturing licence issued by MITI for the manufacture of protective caps for the oil and gas industry.

Please see section 11.1 of this Prospectus for further information in relation to the operating licences of the Perisai Group.

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# 5.3.10 Trademarks and intellectual property rights

# Intellectual property rights

The Perisai Group currently jointly holds, with PRSS, various registered intellectual property rights under its operating subsidiary companies. Details of intellectual property rights held are as follows:

Company Product / Solutions	Description of patent application	Serial number / Date	Countries
<u>CSSB</u> CorroCap™	Protective caps for bolts with nuts against corrosion	PI 9600989 Application filed on 18.03.1996 and pending certification	Malaysia
ISSB Marine Growth Impactor (2)	Apparatus for the combating of underwater growth on submerged structures	P1 9502118 Application filed on 25.07.1995 and pending certification	Malaysia
		P-962091 Application filed on 24.07.1996 and pending certification	Indonesia
		GB 2 303 660 B Patent granted on 24.03.1999 for a period of 20 years commencing from 22.07.1996	UK
		US 5,791.818 Patent granted on 11.08.1998 for a period of 20 years commencing from 22.07.1996	USA
		312 283 Patent granted on 22.04,2002 for a period of 20 years commencing from 19.07,1996	Norway
		203991 Patent granted on 30,08.2001 for a period of 20 years commencing from 25,07,1996	Mexico
Marine Growth Pile Protector (2)	Apparatus for eliminating and preventing marine growth on offshore structures	1D 0 005 441 Patent granted on 22.10.2001 for a period of 20 years commencing from 25.03.1996	Indonesia

Company Product / Solutions	Description of patent application	Serial number / Date	Countries
		GB2 296 027-B Patent granted on 04.11.1998 for a period of 20 years commencing from 13.12.1995	UK
		US 5,765,968 Patent granted on 16.06.1998 for a period of 20 years commencing from 03.12.1995	USA
		PA/a/1996/002345 Patent granted on 20.06.2003 for a period of 20 years commencing from 14.06.1996	Mexico
OTSB CorroCap <sup>TM (1)</sup>	Protective caps for bolts with nuts against corrosion	036228 Application filed on 21.07.2003 and pending certification	Thailand
		ID 0008554 Patent granted on 11.06.2003 for a period of 20 years commencing from 18.03.1997	Indonesia
		471/Cal/97-B Application filed on 17.03.1997 and pending certification	India
		AU 731759 Patent granted on 19.07.2001 for 20 years commencing 06.02.1997	Australia
		GB 2324348 Patent granted on 21.10.1998 for 20 years commencing 06.02.1997	UK
		US 6,135,691 Patent granted on 24.10.2000 for 20 years commencing 01.02.1999	USA
Composite Sleeve Repair <sup>(3)</sup>	Method and means of repairing a pipe	PI 20023462 Application filed on 17.09.2003 and pending certification	Malaysia

Company Product / Solutions	Description of patent application	Serial number / Date	Countries
		Pl 20032723 Application filed on 21.07,2003 and pending certification	Malaysia
		10/664,807 Application filed on 17.09.2003 and pending certification	USA
		0321713.0 Application filed on 16.09.2003 and pending certification	UK
		304/2003 Application filed on 16.09.2003 and pending certification	UAE
		085252 Application filed on 16.09.2003 and pending certification	Thailand
Nates:		P0020030000472 Application filed on 16.09.2003 and pending certification	Indonesia

## Notes:

- (1) The CorroCap™ is a product of the joint collaboration between CSSB, RIL and PRSS for the development, testing and commercial exploitation of anti-corrosion products. PRSS and CSSB are joint patent holders relating to the products in the Malaysian region. However PRSS and OTSB are joint patent holders relating to the products for the region outside Malaysia, pursuant to an agreement between CSSB, RIL, PRSS and OTSB and a deed of assignment between RIL and OTSB, both dated 2 March 2004, whereby OTSB was assigned the rights of CorroCap™. Pursuant to a Licensing Agreement between RIL and CSSB dated 8 December 2003 and the Project Agreement dated 12 July 1996 entered into between PRSS, CSSB and RIL for the project development of corrosion control products CSSB has an exclusive licence to exploit CorroCap™ throughout the whole world. For further information on the Licensing Agreement, please refer to section 17.7 (i) of this Prospectus.
- (2) The Marine Growth Impactor and Marine Growth Pile Protector are products of the joint collaboration between ISSB, PRSS and ESB for the combating of underwater growth on submerged structures and preventing marine growth on offshore structures. PRSS and ISSB are joint owners of the products. Pursuant to the Principal Agreement dated 15 February 1996 entered into between PRSS, ISSB and ESB, ISSB and PRSS are entitled to receive royalties from ESB as ESB has exclusive sole distribution and manufacturing rights to the products. Pursuant to the Distributor Contracts between CSSB and ESB dated 1 May 1998, CSSB has acquired the exclusive sole distribution and manufacturing rights to the products from ESB. For further information on the Distributor Contracts, please refer to section 17.7 (x) of this Prospectus.
- (3) The Composite Sleeve Repair is a product of the joint collaboration between OTSB and PRSS. PRSS and OTSB have made a joint application to patent this product. Pursuant to a Licensing Agreement dated 30 April 2003 entered into between PRSS, OTSB and CSSB, OTSB and PRSS are entitled to receive royalties from CSSB, which is given a worldwide licence to design, manufacture, supply and install the product for 20 years commencing from 30 April 2003 with an option to renew for a further ten years.

#### **Trademarks**

The list of trademarks owned by the Perisai Group, all of which are registered / to be registered in Malaysia, are as follows:

Company	Trademark	Date registered	Trademark No.
CSSB	"Corro-Shield"	04.10.1996	96012089
	"CorroCap"	Filed on 09.12.2003. Pending registration	2003-16657
	"FlangeShield"	Filed on 09.12,2003, Pending registration	2003-16658
	"Riser Clamp Shield"	Filed on 09.12.2003. Pending registration	2003-16659
	"Aqua-Shield"	Filed on 09.12,2003, Pending registration	2003-16660
	"Corro-Cillin"	Filed on 09.12.2003. Pending registration	2003-16661
	"Snowcoat"	Filed on 09.12.2003. Pending registration	2003-16662
	"CS 105MP"	Filed on 09.12.2003. Pending registration	2003-16663
	"CS 85MP"	Filed on 09.12.2003. Pending registration	2003-16664

#### 5.3.11 Principal markets

To date, the Perisai Group's products and solutions have been provided predominantly to the Malaysian oil and gas operations. For the financial year ended 31 December 2003, approximately 87.3% of sales were attributed from the Malaysian oil and gas operations with the balance of 12.7% from the Brunei, Thailand and Indonesian offshore oil and gas operations.

# 5.3.12 Marketing and distribution network

The Perisai Group services the petroleum industry in Malaysia by dealing directly with the national petroleum company, PETRONAS and its PSC contractors.

In Indonesia, UAE, Thailand, Brunei and Oman, the Group is represented by agents.

The Group has also applied for patents for its major products and solutions in its target countries such as Malaysia, Indonesia, USA, UK, Mexico, Thailand, India and Norway. Nevertheless, the Group believes its export market growth will principally come from Indonesia, Brunci, Thailand, Vietnam and the Middle East countries.

For each new product or solution launched, the Group will market its products or solutions in the export markets only two years after the products or solutions are introduced and proven to be effective in the Malaysian market. This is to establish track record and to ensure that the products or solutions the Group developed can be further improved and refined.

#### 5.3.13 R&D

The Group recognises the importance of R&D which has brought the Group success to what it is today and in facilitating future growth of the Group, which will be dependent on regular enhancement of its existing products and solutions and introduction of new products and solutions which are effective, competitively priced, environmentally friendly and well

accepted by the market. The Group believes that having a strong and well-structured R&D team is essential for the development of innovative and successful new products and solutions. This is reflected by a total of RM3.16 million spent on R&D in the past two financial years ended 31 December 2003, which is an average of approximately 11.5% of the total turnover for each of the respective financial years.

The Group currently has its own R&D facilities for development of its products. The Perisai Group conceived and developed all its products while PRSS provides the testing facilities at its laboratories for the testing of Perisai Group's products and if required for further enhancement of the products. Even though the joint research collaborations between the Group and PRSS are on a case by case basis, the management of the Group believes that due to the success of many of the Group's existing products and solutions which are the results of the research partnership between PRSS and the Group, PRSS will continue to work with the Group as its R&D partner in respect of future product development. The products jointly owned and developed with PRSS are CorroCap<sup>TM</sup>, Marine Growth Impactor and Protector, Composite Sleeve Repair and Fibaroll-PMS (riser / pipeline maintenance system).

The collaboration with DnV is also important to the success of the Group's existing and future product development as it provides testing facilities and independent verification and certification on the effectiveness of the Group's products and solutions in respect of their ability to control and prevent corrosion as well as the durability of these products and solutions. DnV is not involved in developing and conceptualizing any of the Perisai Group's products. There are no joint venture agreements between the Perisai Group and DnV.

Profiles of these two organisations are as follows:

#### (i) PRSS

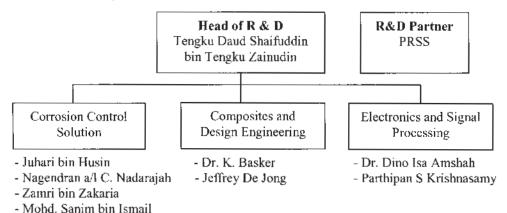
PRSS is the wholly-owned R&D subsidiary of PETRONAS. Envisioned to be a high performance R&D organisation focused on meeting its stakeholders' requirement, PRSS is committed in providing quality research and technical services to meet the research and technological needs of the PETRONAS group of companies as well as other petroleum related companies, both domestically and abroad in the areas of exploration and production, refining, gas and petrochemicals, product development, materials and corrosion, environmental management, digital information services and scientific services.

# (ii) DnV

DnV is an autonomous, independent and internationally recognised scientific foundation headquartered in Oslo, Norway with the objectives of safeguarding life, property and the environment, at sea and onshore. The organisation is staffed by more than 5,000 employees operating in 300 offices worldwide. DnV's specialties include certification, verification and consultancy services relating to ships, offshore structures and installations and onshore industries. These certification include certification of the effectiveness of corrosion control products and structures. DnV has been working with CSSB since 2000.

The Perisai Group uses the facilities of DnV to perform certain tests as certain equipment owned by DnV are currently not available in Malaysia. To complement the R&D facilities of PRSS, the Group intends to enhance its own R&D facilities. Accordingly, approximately RM8 million of the proceeds raised from the Public Issue will be utilised by Perisai to purchase the necessary equipment, including equipment which are currently not available in Malaysia for its R&D facilities. This is expected to reduce the Group's usage of DnV's facilities in Singapore for its R&D. The proceeds shall also provide the Group with the financial resources to recruit more engineers to conduct in-house R&D.

The R&D team is divided into three divisions, namely Corrosion Control, Composites and Design Engineering and Electronics and Signal Processing and is headed by Tengku Daud Shaifuddin bin Tengku Zainudin.



The Group's pioneering R&D team, which includes the following personnel whose profiles are set out in section 7.8 of the Prospectus, have been responsible for the development of products and solutions such as CorroCap™, FlangeShield™, Riser Clamp Shield™, Corro-Cillin™, Corro-Shield™ and Composite Sleeve Repair:

- (i) Tengku Daud Shaifuddin bin Tengku Zainudin
- (ii) Nagendran a/l C. Nadarajah
- (iii) Juhari bin Husin
- (iv) Zamri bin Zakaria
- (v) Mohd. Sanim bin Ismail

In addition to the above personnel, the Group has recently engaged new personnel and consultants as part of its programme to strengthen the R&D team and improve the structure of the R&D process. The new team members who have recently joined the Group are as follows:

- Dr. Dino Isa Amshah
- (ii) Jeffrey De Jong
- (iii) Dr. K. Basker
- (iv) Parthipan S Krishnasamy

The profiles of the new R&D Team are set out below:

#### (i) Dr. Dino Isa Amshah

Dr. Dino holds a Doctorate of Philosophy in Electrical and Electronics Engineering from the University of Nottingham, UK and specialises in Analog Electronics and Circuits and Signal Processing. Dr. Dino's illustrious working career includes being an Engineering Section Head, Plant Manager and Chief Technology Officer ("CTO") in various multinational companies. From 1996 to 2001, Dr. Dino was attached to Crystal Clear Technology whereupon he started as a Plant Manager and progressed to the position of CTO. As the CTO, Dr. Dino was responsible for implementing a 5-year technology roadmap of the company. At present, Dr. Dino is a lecturer in the University of Nottingham teaching the subjects of C Programming, Analog Electronics, Signal Processing, Numerical Methods and Analog Circuits. Dr Dino joined the Group as a R&D consultant on 1 December 2003.

As a specialist in analog electronics, analog circuits and signal processing, Dr. Dino will play a vital role in the Group's development of a new generation of "smart" corrosion control products and solutions. These products and solutions will incorporate microchips to track the internal environment of the structure, predict the failure mode and transmit the appropriate electronic signals to the owner/operator to provide early warning of potential instability, thus allowing remedial action to be taken before the damage occurs.

## (ii) Jeffrey De Jong

Jeffrey is a Dutch national and holds a Bachelor of Science in Architecture and Master of Science in Building Technology from the University of Technology of the Netherlands. After obtaining his masters degree in 1983, Jeffrey worked for British and Dutch companies based in Singapore and Malaysia respectively where he was responsible for the design and implementation of space frames and skylights in modern buildings and optimisation of reinforced and steel structures. Jeffrey pioneered in developing methods of repairs, strengthening and protection based on composite technology. Jeffrey joined the Group as a R&D consultant on 1 December 2003.

Having worked in a British company specialising in developing methods of repairs, strengthening and protection based on composite technology, Jeffrey is a specialist in composite products R&D.

#### (iii) Dr. K. Basker

Dr. Baskar holds a Master in Structural Engineering from Anna University, Chennai and Doctorate of Philosophy in Structural Engineering from the National University of Singapore. He started his career in 1996 with the Indian operations of a construction and infrastructure multinational whereupon he analysed and designed various industrial, petrochemical and oil refinery structures. In early 2002, Dr. Baskar joined the Singapore operations of DnV as a Structural/Industrial Engineer and his work involved analysis and review of structures and components and planning, coordination and execution of laboratory structural and component tests for various clients. The subjects under his analysis and review, comprise metal, concrete and composite structures. Dr Baskar joined the Group in February 2004 as a member of the R&D team.

Dr. Baskar is a specialist in structural engineering, across a wide range of materials such as metal, concrete and composites. As a full time R&D staff in the Group, Dr. Basker will be involved in most of the new products and solutions to be developed by the Group involving composites. Dr. Baskar will be complemented by Jeffrey's extensive knowledge in advanced composite materials.

#### (iv) Parthipan S Krishnasamy

Parthipan graduated from the University of Thornewood UK with a Bachelor of Engineering majoring in Electrical and Electronic. Prior to joining CSSB, Mr. Parthipan was attached to various multinationals in the semiconductor and electronic industry and was responsible for projects such as the manufacturing methodology of new products and technology transfers from holding companies. Parthipan joined CSSB on 1 December 2003 and is involved in the improvement and refinement of the permanent Composite Sleeve Repair system. Parthipan will be working with Dr. Dino towards the development of corrosion control products and solutions that will incorporate microchips to track the internal environment of the structure, predict the failure mode and transmit the appropriate electronic signals to the owner / operator to provide early warning of potential instability.

# 5.3.14 Market size and competition

In the domestic front, there is no direct competitor, both local and foreign, due to CSSB's appointment as a supplier under VDP. The Perisai Group has a monopoly for the manufacture, supply and installation of corrosion protection systems on all fasteners, flanges, riser clamps and pipe supports on Carigali's offshore platforms and those of PETRONAS' PSC contractors' offshore facilities in Malaysia as well as operations owned by PETRONAS or its subsidiaries.

Out of the total market size of around RM120 million for atmospheric corrosion control products in 2002 in Malaysia, computed based on the number of oil and gas platforms and onshore installations, the Perisai Group had a market share of approximately 9%. The rest of the market is accounted by the various paints and coatings companies, which are not direct competitors to CSSB's range of products and solutions. This is due to the fact that paints and coatings are normally used when there is a budget constraint on the part of the clients. They are basically available off-the-shelves and are viewed as commodities in the market.

(Source: Frost & Sullivan Report dated April 2004)

However, it should be noted that this survey was conducted on CSSB's industry position prior to the conclusion of the Master Service Agreement and the award of the individual contracts from PETRONAS' PSC contractors, namely, *inter alia*, Carigali, ExxonMobil, Shell and Nippon Oil for the provision of corrosion control services in May / June 2003.

In the global front, the Perisai Group also faces competition from companies providing substitute products and solutions as follows:

Types of protection	Perisai Group's products / solutions	Competitors / Substitute Products or Solutions
Nuts and bolts preservation	CorroCap <sup>TM</sup>	Rodolid (Germany) and Sapscal International (UK)
Flange piping preservation	FlangeShield™	Caulking Tape Wraps
Rehabilitation of corroded risers and pipes		
<ul> <li>mildly corroded risers and pipes</li> </ul>	Fibaroli	Clock Spring (USA) and Armour Plate Wrap (USA)
<ul> <li>severely corroded risers and pipes</li> </ul>	Composite Sleeve Repair	Pipeline integrity International (British), Mexssub Oilstates Hydrotech (USA)
Heat exchanger protection	CTI Shield™	Prefabricated plastic and nylon insert
Marine growth removal and prevention systems	Marine Growth Impactor & Marine Growth Pile Protector	IEV-Group

# 5.3.15 Employees

The Group recognises the importance of its employees and the upgrading of their skills and knowledge. The Group provides staff training and development programmes for its staff through on-the-job training and in-house training programmes. The Group believes that on-the-job-training is an effective means of providing practical training for its employees. Apart from on-the-job training, the employees are also sent to attend both external technical and managerial courses.

As at 31 May 2004, the Perisai Group has a total workforce of 78 employees. The employee structure of the Group is as follows:

Category	Total	Average no of years of service
Managerial and professional	20	3
Technical and supervisory	51	4
Clerical and related occupations	4	2
General workers	3	2
Total	78	

None of the employees are members of any unions and there has not been any industrial disputes in the past.

# 5.3.16 Development milestones

The development milestones of the Perisai Group are summarised below:

Year	Company	Achievement
February 1996	ISSB	Formed technical collaboration with PRSS to carry out joint research, development, engineering, testing and commercial exploitation of marine growth removal and prevention system.
July 1996	CSSB	Formed technical collaboration with PRSS to provide testing facilities at its laboratories for CSSB's products.
March 1997	CSSB	Independent accreditation of vacuum seal caps as an effective anti-corrosion product by Lloyd's Register on successful laboratory tests in accordance with ASTM B117 and ASTM B610-86.
May 1998	CSSB	Performed the first Riser Clamp Shield <sup>TM</sup> installation for a CARIGALI offshore platform. Further to an independent inspection by DnV on 23 August 2000, the Riser Clamp Shield <sup>TM</sup> was confirmed to have effectively prevented corrosion since the time it was installed.
May 2000	CSSB	Awarded Vendor status under the PETRONAS VDP by PETRONAS and the MoF to manufacture, market and install protective systems for corrosion prevention on all fasteners, new pipe flange surfaces and pipe supports including surface preparation, supply and installation on corroded fasteners and flanges surface.

Year	Company	Achievement
June 2000	CSSB	Awarded first major contract valued at RM8 million by PRSS for the complete protection all the nuts, bolts, flanges and riser clamps in several newly installed offshore platforms with CSSB's products, namely CorroCap <sup>TM</sup> , FlangeShield <sup>TM</sup> and Riser Clamp Shield <sup>TM</sup> . The initial contract was awarded by CARIGALI to PRSS which was later subcontracted to CSSB.
August 2000	CSSB	Independent verification by DnV of field trials of CSSB's anti corrosion products after two and a half years indicating "zero corrosion" for Riser Clamp Shield <sup>TM</sup> and CorroCaps <sup>TM</sup> .
July 2001	CSSB	Improved silicon formulation for CorroCap <sup>™</sup> and improved wax formulation for Corro-Cillin <sup>™</sup> resulting in their melting points increased to 105° Celeius resulting in greater heat resistance.
September 2001	FSSB	Granted the exclusive selling and application rights of Fibaroll by Fiba Tech Industries Ltd for Malaysia, Thailand, Taiwan, Brunei and Singapore market.
November 2001	CSSB	Signed a Price Agreement with Malaysia LNG Sdn Bhd for a two (2) plus one (1) contract to provide services under the VDP scope.
February 2002	CSSB	VDP scope was extended to include the inspection and maintenance of all nuts and bolts, pipe flanges, pipe supports, and risers/riser clamps.
April 2002	CSSB	Awarded its first Composite Sleeve Repair engagement by Shell at a contract value of RM5.45 million. This represents the first time the permanent sleeve repair technology was used after development. The project was completed in August 2002 and obtained a certification from DnV. This was a breakthrough for CSSB as the Composite Sleeve Repair was still at the experimental stage when the contract was awarded.
November 2002	CSSB	Awarded a sale order amounting to approximately RM3.3 million in connection with the supply and installation of CorroCap™ and FlangeShield™ for complete protection of all the nuts, bolts and flanges of a large offshore platform operated by Nippon Oil Exploration (Malaysia) Ltd. located off the coast of Malaysia.
December 2002	CSSB	Awarded a sale order in respect of Marine Growth Pile Protector amounting to RM265,000 to be supplied to an offshore platform operated by Pertamina/TotalFinaElf E&P Indonesie in Indonesia.
January 2003	CSSB	WWSB appointed CSSB as its sole and exclusive distributor of Biosolve® products for oil and gas industry for West Malaysia only.

Year	Company	Achievement
March 2003	CSSB	Secured two contracts with Carigali both for the duration of 3 plus 2 years for the inspection and maintenance of heat exchanger
April 2003	CSSB	Awarded first overseas permanent Composite Sleeve Repair job worth approximately RM2.6 million from Brunei Shell. This engagement was the world's first underwater installation of its kind resulting in two (2) permanent sleeve repairs under 34 meters of scawater without operational shutdown.
May / June 2003	CSSB	Awarded contracts from PETRONAS's PSC contractors (Carigali, ExxonMobil, Shell and Nippon Oil) for a three plus two years to provide services under its VDP scope.
July 2003	CSSB	Awarded a sale order amounting to approximately RM700,000 in connection with the supply and installation of CorroCap™ and FlangeShicld™ for protection of nuts, bolts and flanges at an offshore platform operated by Carigali-Triton Operating Company Sdn. Bhd. located at Malaysia-Thailand waters.

# 5.3.17 Interruptions to operations

There have been no interruptions to the Perisai Group's business or operations in the past 12 months.

# 5.4 SUBSIDIARY AND ASSOCIATED COMPANIES

As at the date of this Prospectus, the details of the subsidiary and associated companies of Perisai, all of which were incorporated in Malaysia, are as follows:

Company	Date / Place of incorporation	Date of commencement of operation	Issued and paid-up share capital (RM)	Effective equity interest held (%)	Principal activities
CSSB	15.04.1996 / Malaysia	2 May 1996	600,000	60	Manufacturing, supplying, commissioning and installation of corrosion control products and related services primarily for the oil and gas industry
FSSB	10.03.1993 / Malaysia	1 November 2002	500,000	100	Trading, design and application of specialist composite materials primarily for the oil and gas industry
RMSB	23.02.1999 / Malaysia	2 January 2000	100,000	100	Provision of services relating to advanced engineering inspection techniques, heat exchanger tubes restoration technology and plants engineering maintenance primarily for the oil and gas industry

Company	Date / Place of incorporation	Date of commencement of operation	Issued and paid-up share capital (RM)	Effective equity interest held (%)	Principal activities
OUSB	03.03.1999 / Malaysia	1 August 2001	500,000	100	Design and engineering and patent holder
ISSB <sup>(1)</sup>	01.08.1994 / Malaysia	1 July 1995	100,000	100	Design and consultancy service and patent holder
WWSB	30.10.2002 / Malaysia	2 January 2003	100,000	37.5	Provision of environmentally friendly hydrocarbon mitigation services primarily for the oil and gas industry

Note:

(i) Wholly-owned subsidiary of OTSB

Further information on the subsidiary and associated companies of Perisai is set out hereafter.

#### 5.4.1 CSSB

## (i) History and business

CSSB was incorporated as a private limited company in Malaysia under the Act on 15 April 1996 as Corrosheild Sdn Bhd and subsequently adopted its present name on 3 May 1996. CSSB is principally involved in the manufacturing, supplying, commissioning and installation of corrosion controls products and related services. CSSB is a company registered with the MoF and licenced by PETRONAS to carry out a range of maintenance services relating to corrosion control. With close collaboration with PRSS, CSSB also develops, markets and installs corrosion protective products, which are currently being installed in the oil and gas industry.

On 25 May 2000 CSSB was awarded the PETRONAS Vendor Status under the VDP to manufacture, supply and install protective systems for corrosion prevention on all fasteners, new pipe flanges surfaces and pipe supports including surface preparation, supply and installation on corroded fasteners and flanges for a period of five years. The scope of the product included in the PETRONAS Vendor Status was extended on 6 February 2002 to include inspection and maintenance of all nuts and bolts, pipe flanges, riser, riser clamps and pipe supports.

Notwithstanding that the PETRONAS Vendor Status was awarded on 25 May 2000, the full implementation of the Vendor Status came much later upon the conclusion of the Master Service Agreement and the award of the individual contracts from PETRONAS' PSC contractors, namely, *inter alia*, Carigali, ExxonMobil, Shell and Nippon Oil for the provision of corrosion control services in May / June 2003. The Master Service Agreement provides the basis of the said contracts between PETRONAS' PSC contractors and CSSB. Each contract is for a duration of 3 plus 2 years from the date of the respective contracts.

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# (ii) Share capital

The present authorised share capital of CSSB is RM1,000,000 comprising 1,000,000 ordinary shares of RM1.00 each, of which RM600,000 comprising 600,000 ordinary shares of RM1.00 each have been issued and fully paid-up.

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

Date of allotment	No. of shares allotted	Par value (RM)	Consideration	Cumulative issued and paid-up share capital (RM)
15.04.1996	2	1.00	Subscriber shares - cash	2
04.12.1996	599,998	1.00	Cash	600,000

As at the date of this Prospectus, save as disclosed below, there are no outstanding warrants, options, convertible securities or uncalled capital of CSSB:

Pursuant to the project agreement dated 12 July 1996 between CSSB, RII. and PRSS for the project development of corrosion control products, an option was granted to PRSS to purchase up to 30% of the issued share capital of CSSB under such terms to be agreed between PRSS and CSSB. In this respect, Tengku Daud Shaifuddin bin Tengku Zainudin who currently holds 40% equity interest in CSSB has given an irrevocable undertaking to the board of directors of CSSB on 2 January 2004 to sell his shares in CSSB in the event the option is exercised by PRSS.

# (iii) Substantial shareholders

According to the Register of Members as at 31 May 2004, the substantial shareholders of CSSB (5% or more of the issued and paid-up share capital) are as follows:

Name	< Direct		_		Citizenship / Place of incorporation
Name	Direct	70	marreet	/0	or incorporation
Perisai <sup>(1)</sup>	360,000	60	-	-	Malaysia
Tengku Daud Shaifuddin bin Tengku Zainudin	240,000	40	360,000 (2)	60 (2)	Malaysian

#### Note:

- (1) The substantial shareholders of Perisai are deemed interested in CSSB by virtue of Perisai's substantial shareholdings in CSSB. Please refer to Section 7.1.2 of this Prospectus for details of the substantial shareholders of Perisai.
- (2) Deemed interested by virtue of his substantial shareholdings in Perisai.

# (iv) Subsidiary and associated companies

As at the date of this Prospectus, CSSB does not have any subsidiary or associated companies.

#### 5.4.2 FSSB

## (i) History and business

FSSB was incorporated as a private limited company in Malaysia under the Act on 10 March 1993. FSSB adopted its present name on 15 July 2002. FSSB is principally involved in the trading, design and application of specialist composite materials.

FSSB sells and applies Fibaroll materials and systems for corrosion control in Malaysia, Brunei, Thailand and Taiwan. FSSB was granted an exclusive selling and application rights in respect of Fibaroll materials and systems in Malaysia, Brunei and Thailand for all types of projects and in Singapore for civil structure and shipping projects in 2001. FSSB has now expanded its services into design, manufacture, supply and installation of riser pipeline maintenance systems such as Fibaroll-PMS (riser / pipeline maintenance system) and Fibaroll AFS (anti-fouling system).

#### (ii) Share capital

The present authorised share capital of FSSB is RM500,000 comprising 500,000 ordinary shares of RM1.00 each, all of which have been issued and fully paid-up.

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

Date of allotment	No. of shares allotted	Par value (RM)	Consideration	Cumulative issued and paid-up share capital (RM)
10.03.1993	2	1.00	Subscriber shares – cash	2
15.01.2002	98	1.00	Cash	100
11.07.2002	199,900	1.00	Cash	200,000
23.06.2003	300,000	1.00	Cash	500,000

As at the date of this Prospectus, there are no outstanding warrants, options, convertible securities or uncalled capital of FSSB.

#### (iii) Substantial shareholder

FSSB is a wholly-owned subsidiary of Perisai.

#### (iv) Subsidiary and associated companies

As at the date of this Prospectus, FSSB does not have any subsidiary or associated companies.

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#### 5.4.3 RMSB

#### (i) History and business

RMSB was incorporated as a private limited company in Malaysia under the Act on 23 February 1999 and commenced operations in July 2000. RMSB principally provides services for advanced engineering inspection techniques, heat exchanger tubes restoration technology and plants engineering maintenance.

The initial scope of business of RMSB was the provision of services related to rope access techniques (abseiling) for general and oil and gas industries. However, since 2001, the scope of business was expanded to include provision of services related to advanced inspection techniques, heat exchanger tubes restoration technology and specialised engineering maintenance on heat exchangers, boilers, process vessels and thermal equipment through smart partnership with overseas companies.

# (ii) Share capital

The present authorised share capital of RMSB is RM100,000 comprising 100,000 ordinary shares of RM1.00 each, all of which have been issued and fully paid-up.

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

Date of allotment	No. of shares allotted	Par value (RM)	Consideration	Cumulative issued and paid-up share capital (RM)
23.02.1999	2	1.00	Subscriber shares - cash	2
26.09.2000	99,998	1.00	Cash	100,000

As at the date of this Prospectus, there are no outstanding warrants, options, convertible securities or uncalled capital of RMSB.

# (iii) Substantial shareholder

RMSB is a wholly-owned subsidiary of Perisai.

# (iv) Subsidiary and associated companies

As at the date of this Prospectus, RMSB does not have any subsidiary or associated companies.

#### 5.4.4 OTSB

#### (i) History and business

OTSB was incorporated as a private limited company in Malaysia under the Act on 3 March 1999. OTSB is a wholly-owned subsidiary of Perisai and is principally involved in design and engineering of marine growth control systems and Composite Sleeve Repair Technology and is also a patent holder. OTSB jointly with PRSS have made a patent application on 21 July 2003 for the Composite Sleeve Repair Technology. Apart from sharing the ownership of the patent, OTSB and PRSS will jointly further develop the Composite Sleeve Repair Technology.

#### (ii) Share capital

The present authorised share capital of OTSB is RM500,000 comprising 500,000 ordinary shares of RM1.00 each, all of which have been issued and fully paid-up.

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

Date of allotment	No. of shares allotted	Par value (RM)	Consideration	Cumulative issued and paid-up share capital (RM)
03.03.1999	2	1.00	Subscriber shares - Cash	2
10.09.1999	99,998	1.00	Capitalisation of amount owing to directors	100,000
26.06.2003	400,000	1.00	Cash	500,000

As at the date of this Prospectus, there are no outstanding warrants, options, convertible securities or uncalled capital of OTSB.

## (iii) Substantial shareholder

OTSB is a wholly-owned subsidiary of Perisai.

# (iv) Subsidiary and associated companies

As at the date of this Prospectus, ISSB is the only subsidiary company of OTSB. Please refer to section 5.4.5 of this Prospectus for further information on ISSB.

#### 5.4.5 ISSB

## (i) History and business

ISSB was incorporated as a private limited company in Malaysia under the Act on 1 August 1994. ISSB provides design and consultancy services and is also the joint owners with PRSS for marine growth control products (Marine Growth Impactor and Marine Growth Pile Protector) developed by ISSB jointly with PRSS.

In 1996, ISSB entered into a contract with ESB and PRSS to develop apparatus for combating marine growth on submerged structures, cleaner collar and collar adapted with propeller and fins.

## (ii) Share capital

The present authorised share capital of ISSB is RM100,000 comprising 100,000 ordinary shares of RM1.00 each, all of which have been issued and fully paid-up.

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

Date of allotment	No. of shares allotted	Par value (RM)	Consideration	Cumulative issued and paid-up share capital (RM)
01.08.1994	2	1.00	Subscriber shares - cash	2
06.01.1996	99,998	1.00	Cash	100,000

As at the date of this Prospectus, there are no outstanding warrants, options, convertible securities or uncalled capital of ISSB.

# (iii) Substantial shareholder

ISSB is a wholly-owned subsidiary of OTSB.

### (iv) Subsidiary and associated companies

As at the date of this Prospectus, ISSB does not have any subsidiary or associated companies.

#### 5.4.6 WWSB

#### (i) History and business

WWSB was incorporated as a private limited company in Malaysia under the Act on 30 October 2002. WWSB is involved in the provision of environmentally friendly hydrocarbon mitigation services (distributed under the name of BioSolve®).

# (ii) Share capital

The present authorised share capital of WWSB is RM100,000 comprising 100,000 ordinary shares of RM1.00 each, all of which have been issued and fully paid-up.

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

Date of allotment	No. of shares allotted	Par value (RM)	Consideration	Cumulative issued and paid-up share capital (RM)
30.10.2002	2	1.00	Subscriber shares - cash	2
02.01.2003	99,998	1.00	Cash	100,000

As at the date of this Prospectus, there are no outstanding warrants, options, convertible securities or uncalled capital of WWSB.

#### (iii) Substantial shareholders

According to the Register of Members as at 31 May 2004, the substantial shareholders of WWSB (5% or more of the issued and paid-up share capital) are as follows:

	<>				Citizenship /
Name	Direct	%	Indirect	%	Place of incorporation
Christopher Anak James	42,500	42.5	-	-	Malaysian
Perisai <sup>(1)</sup>	37,500	37.5	-	-	Malaysia
Abu Bakar bin Masri	20,000	20.0	-	-	Malaysian

# Note:

# (iv) Subsidiary and associated companies

As at the date of this Prospectus, WWSB does not have any subsidiary or associated companies.

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<sup>(1)</sup> The substantial shareholders of Perisai are deemed interested in WWSB by virtue of Perisai's substantial shareholdings in WWSB. Please refer to Section 7.1.2 of this Prospectus for details of the substantial shareholders of Perisai.

#### 5.5 MAJOR CUSTOMERS

For the financial year ended 31 December 2003, the top 10 customers of the Perisai Group are as follows:

Name	% of total turnover for the financial year ended 31 December 2003	Length of Relationship (years)
Carigali	51.4	7
Nippon Oil Exploration (M) Ltd	12.9	2
PRSS	11.0	7
Joffren Omar Co. Sendirian Berhad (Brunci Shell)	9.9	2
Ramunia Fabricator Sdn Bhd	5.5	2
JMSB-KMSB Joint Venture	2.2	1
Carigali Triton Operating Co Sdn Bhd	1.9	2
Pertamina/TotalFinaElf E&P Indonesic	1.3	1
UEC Engineering Sdn Bhd	1.2	1
PJ Energy Services Co Ltd	1.2	2
Total	98.5	

Presently, the Group is dependent on Carigali and PRSS, who are subsidiaries of PETRONAS for most of its sales. However, with the Group's proven track record, competent personnel and stringent quality control requirements and standards, effective and efficient products and solutions that conform to the high standards of its customers, the Perisai Group is well positioned to continue securing business from its customers. The Group also expects demand from its existing customers to sustain as these companies are aware of the significant potential loss in revenue in the event corrosion on their platforms are not managed. Moreover, the Perisai Group has been actively involved in the corrosion control industry since 1996 and to date, has not breached any terms which has resulted in the termination of any of its projects. Further, the Perisai Group intends to widen its customer base by diversifying into other industries such as marine shipping and power plants and expand geographically into other countries. In this respect, the Group has successfully secured contracts in Brunei, Indonesia, Thailand and Vietnam and is presently marketing its products and services in Myanmar.

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#### 5.6 MAJOR SUPPLIERS

For the financial year ended 31 December 2003, the top 10 suppliers to the Perisai Group are as follows:

Name	Raw Materials	% of total purchase for the financial year ended 31 December 2003	Length of Relationship (years)
1 Table	Top or Lynge Date Total		(,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Fiba Tech Industries Ltd	Fibre reinforced plastics	46.0	2
Westford Chemical	Biosolve®	15.2	1
Corporation			
Texchem Materials Sdn Bhd	Silicone	14.4	3
Honcy Well Ltd	Waxes	12.6	5
Lavatron Density Sdn Bhd	Epoxy	2.1	3
lmej Warisan Sdn Bhd	Fibre glass material	1.8	3
Nysin Trading Sdn Bhd	Consumables	1.5	5
Min Industries Sdn Bhd	Floating rubber	1.3	6
Polyolefins Pipes Bhd	Poly pipes	1.2	6
Safety Innovators Sdn Bhd	Personal protective	0.8	5
•	equipment		
	Tota	96.9	

The Perisai Group is dependent on Fiba Tech Industries Ltd and Westford Chemical Corporation for the supply of fibre reinforced plastics and Biosolve® respectively. For further information on how the Perisai Group mitigates the risk of relying on third party products and solutions, please refer to Section 4.10 of this Prospectus. For the other raw materials, the Directors of Perisai believes that they are not dependant on any single supplier and there would also not be any difficulty in sourcing their raw materials from other suppliers. The Perisai Group continues to purchase its raw materials from the same suppliers due to its long-term business relationship with the respective suppliers, with whom it enjoys a consistent timely supply at competitive prices.

# 5.7 FUTURE PLANS

The Perisai Group has a market share of approximately 9% for corrosion control products in 2002, with the rest of the market accounted by the various paints and coatings companies, which are not direct competitors to the Group's range of products. Over the next 5 years, the Group's business goal is to establish itself as the market leader in the offshore oil and gas sector of the Asian region, diversify into other related services to the oil and gas industry as well as introduce the Group's corrosion control products and solutions to the onshore oil and gas, marine and power industries. To achieve this, the Group will be embarking on the following broad strategies over the next 5 years:

- consolidation of position in the Malaysian offshore oil and gas industry;
- (ii) product development;
- (iii) industry diversification;
- (iv) geographic market expansion; and
- (v) human resource development.

Please refer to section 8 of this Prospectus for further details on the future plans of the Group.