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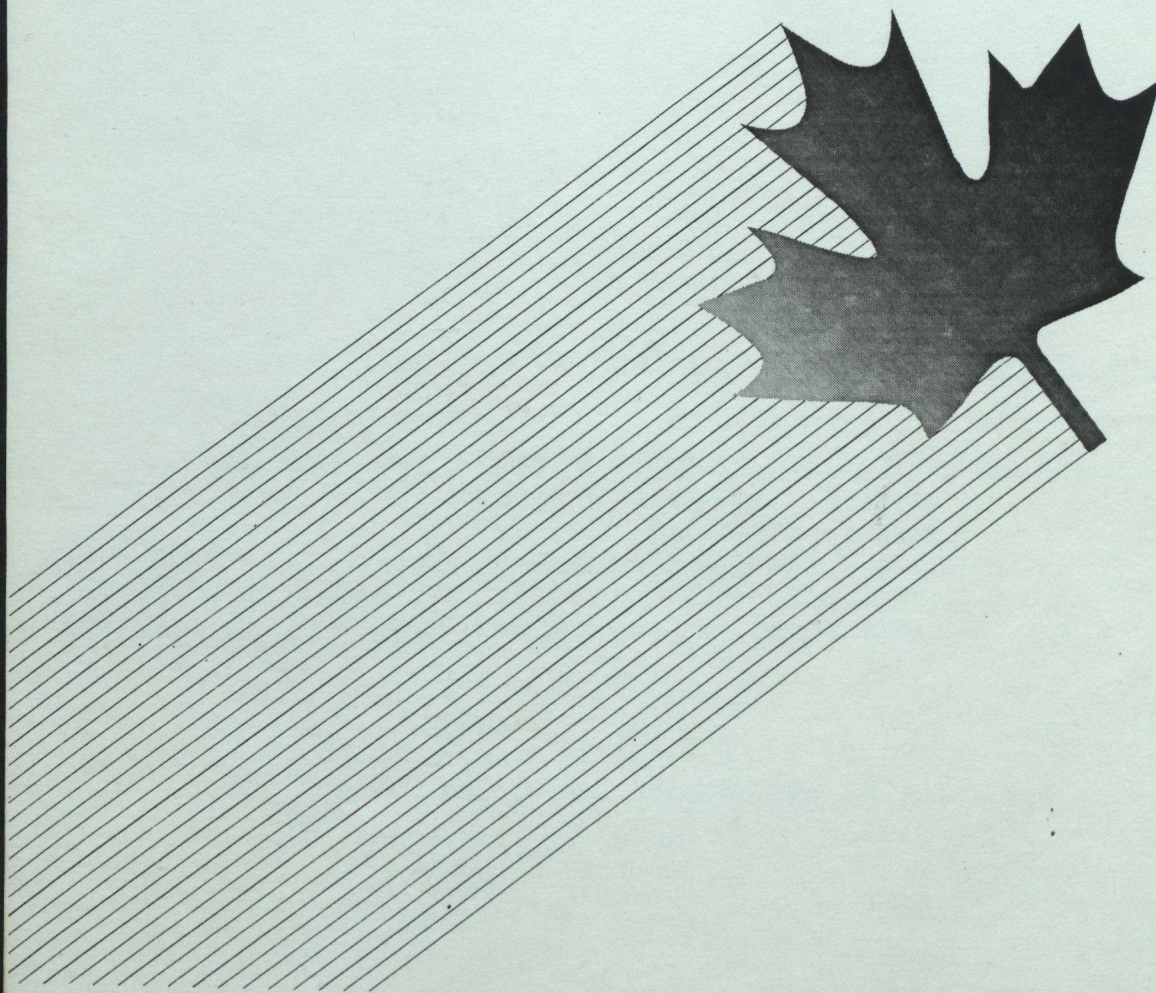
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Global Market Opportunities Review

Naval Systems
1993/1994

External Affairs and
International Trade Canada



Canada

Dept. of External Affairs
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GLOBAL MARKET OPPORTUNITIES REVIEW

NAVAL SYSTEMS

SEPTEMBER 1993

Global Market Opportunity Reviews are working documents which evolve continuously as a result of an ongoing process of consultation between industry and government. These papers will reflect changing market conditions and prospects, current supply capabilities and interests of Canadian industry, as well as other developments which affect trade performance.

PREPARED BY:

This market review is based on an analysis of marketing intelligence, including our Trade Offices abroad, industry views on world markets and reflects the consensus by federal government departments with interest in the sector.

The TRADE PLANNING AND OPERATIONS BUREAU is intended to influence the structure and content of international market development. EXTERNAL AFFAIRS & INTERNATIONAL TRADE CANADA operate.

Participation in the preparation of this Review:

External Affairs & International Trade Canada
Industry and Science Canada
Government Services Canada
Department of National Defence
Canadian Maritime Industries Association
Selected Marine/ Naval Companies

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NAVAL SYSTEMS

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GLOBAL MARKET OPPORTUNITIES REVIEW

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NAVAL SYSTEMS

NAVAL SYSTEMS

EXECUTIVE SUMMARY

PREFACE

The design and construction of 12 patrol frigates, the modernizat Global Market Opportunity Reviews are working documents which evolve continuously as a result of an ongoing process of consultation between industry and government. These papers will reflect changing market conditions and prospects, current supply capabilities and interests of Canadian industry, as well as other developments which affect trade performance.

This market review is based on an analysis of marketing intelligence, including our Trade Offices abroad, industry views on world markets and reflects the consensus by federal government departments with interest in the sector.

The series of reviews published by EAITC is intended to influence the structure and content of international market development programs in which industry and government cooperate.

The acquisition of naval combatants, modernization of older ones or the purchase of individual equipments involves the shipyard as well as the customer nation. Warship acquisition and modernization in most countries is a national decision following extensive negotiations with competing international shipyards. These yards will have proposed several combat system options using equipment from those entities which specialize in systems. Therefore, the Canadian naval systems marketing thrust should be two-fold: potential customer countries and international shipyards.

GLOBAL MARKET OPPORTUNITIES REVIEW

NAVAL SYSTEMS

EXECUTIVE SUMMARY

Chapter The design and construction of 12 patrol frigates, the modernization of four older Canadian destroyers and the design of 12 maritime coastal defence vessels, has produced a modern and sophisticated naval systems capability in Canada. In all cases, a government and industry team has developed unique capabilities with export potential. This potential should be exploited by Canadian companies.

The marketing of the Canadian Patrol Frigate (CPF) has now been underway by the prime contractor, Saint John Shipbuilding Ltd. for some time, therefore this Review will concentrate on the Tribal Class Update and Modernization Program (TRUMP). Because of the unique application of the Maritime Coastal Defence Vessel (MCDV), its export application is being addressed in a separate Review entitled "Maritime Coastal Operations".

The acquisition of naval combatants, modernization of older ones or the purchase of individual equipments involves the shipyard as well as the customer nation. Warship acquisition and modernization in most countries is a national decision following extensive negotiations with competing international shipyards. These yards will have proposed several combat system options using equipment from those entities which specialize in systems. Therefore, the Canadian naval systems marketing thrust should be two-fold: potential customer countries and international shipyards.

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- ANNEX A - CPF Contractors
 - ANNEX B - TRUMP Contractors
 - ANNEX C - Foreign Capabilities - Naval Shipyards
 - ANNEX D - World-Wide Naval Modernization Potential
 - ANNEX E - International Marketing Plan

GLOBAL MARKET OPPORTUNITIES REVIEW
GLOBAL MARKET OPPORTUNITY REVIEW
NAVAL SYSTEMS

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- ANNEX C - Foreign Capabilities - Naval Shipyards
- ANNEX D - World-Wide Naval Modernization Potential
- ANNEX E - International Marketing Plan

GLOBAL MARKET OPPORTUNITIES REVIEW

NAVAL SYSTEMS

I. Title:

NAVAL SYSTEMS

II. Purpose:

To focus and enhance trade development support for naval capabilities in Canada. These capabilities include the construction of modern warships, modernization of older warships and the provision of modern naval systems and equipment to navies around the world.

III. Sector Description:

While this Market Opportunity Review focuses on the Canadian companies involved in the most successful CPF and TRUMP projects, there are over 200 companies in Canada with naval and marine capabilities. These companies and capabilities are listed in a sister document entitled "Guide to Canadian Marine/Naval Related Companies".

These 200 companies employ about 52,000 persons from coast-to-coast and have some 6000 dedicated to the design, development and production of naval systems and equipment. Other than in the combat and propulsion systems areas, the bulk of the equipment plus project management is Canadian.

IV. Acquisition Rationale:

The Canadian Patrol Frigate (CPF) is a Canadian designed and built 4700 tonne frigate which is equipped with combat systems to cope with underwater, surface and air threats. While some of the combat systems and propulsion equipment has been acquired from offshore, the design, integration and supply of other systems are Canadian. The program is only partially completed, however, the early ships have demonstrated that they represent the most sophisticated naval capabilities afloat. A brief description of the systems fitted are contained in Annex A.

Since most of the technologies in the CPF are common to a later Canadian naval program, and in some cases, represent a more current capability, this Review will concentrate on the newer program.

The Tribal Class Update and Modernization Project (TRUMP) extended the life and increased the operational capabilities of a 20 year old destroyer. New electrical, propulsion and combat systems have been designed and integrated with existing equipment and structures. The project not only extended the life of the ship but increased its combat capability by providing Area Air Defence.

The project has been successful through a management team consisting of government and industry. The government departments (National Defence, Government Services and Industry & Science) acted as Prime Contractor with four Second Tier partners. Litton Systems Canada (Combat Systems), MIL Davie (Ship Construction), MIL Systems Engineering (Design) and Pratt & Whitney Canada (Propulsion) formed the main industrial group. An additional 34 contractors were involved and are listed in Annex B.

There are over eleven hundred destroyer/frigate/corvette type ships in the world's navies. Since warships normally require a major update/modernization every 15-20 years, and replacement every 30-40 years, there is obviously a continuing demand. While the TRUMP project was not necessarily unique from the point of modernizing a ship, the management approach was unique in that it did not entail another shipyard refitting a ship but an independent team which managed every phase of this major program. It is this latter aspect which used government expertise mixed with that of industry which might go forth to the world's navies and offer the same service.

V. World Sector Capabilities:

Naval shipyards in Europe, the U.S.A and Russia would be the primary yards for new acquisitions and modernization work. These yards are listed in Annex C.

Foreign strengths lie primarily in their international marketing experience. The Avondales, Vospers, Blomm+Voss, Yarrows etc are experienced international marketers with strong government support. This latter aspect is essential as it is suggested that the bulk of the marketing effort is neither the price nor quality of the product, but rather political or economical. The British and French are very good at using the highest levels of government to make a sale.

The Combat Systems houses, including Signaal, Thomson, Atlas Elektronik and Raytheon are already world renown. They have a network of experienced agents, which are essential in the

lengthy process of selling a naval product abroad. A Canadian project for a foreign navy would still have to use the products of these combat system houses, particularly the weapons and some of the sensors as in the CPF and TRUMP.

The main weakness of our foreign competitors is probably price. Canada should be able to conduct a modernization project for a foreign customer at a lower price than abroad, particularly when competing with the Europeans.

VI. Canadian Capabilities:

Canadian capabilities in this industrial subsector consist of three groups: those companies which participated in both CPF and TRUMP, those that did not participate but had the capability to do so, and those naval/marine companies which can supply components and talent to such a project. The details are contained in the "Guide to Canadian Marine/Naval Related Companies".

The TRUMP project participants can be identified in the following subsectors: (The company noted in each of these subsectors was responsible for that part of the project)

a) Project Management:

While the TRUMP used a government team consisting of the Department of National Defence, Industry and Science Canada and Government Services Canada, there are commercial entities in Canada which do have these kinds of managerial capabilities. Other Canadian companies which could take on this type of project would include Saint John Shipbuilding (which managed the CPF), Paramax, and Litton Systems Canada.

b) Design: (MIL Systems Engineering Inc)

The TRUMP Project added an Area Air Defence capability to the original destroyer which had mounted a Self Defence System. A new combat system was integrated, the ship's hull was strengthened and a water-displacement fuel system was incorporated to improve stability and to meet the demands of additional equipment.

The ship's acoustic and infrared radiation signatures were reduced by noise reduction and an Eductor-Diffuser system in the funnel; the latter provided by Davis Engineering. The Damage Control aspects of the ship were improved by the addition of a Smoke Containment and Evacuation System.

c) Shipbuilding: (MIL Davie)

MIL Davie stripped out the old equipment and rebuilt the four ships of the class. (MIL also built three of the CPFs; Saint John Shipbuilding Ltd is building the remaining nine CPFs)

d) Propulsion: (Pratt & Whitney Canada)

New Gas Turbines were installed in a Combined Gas or Gas propulsion system. In addition, there were main gearing modifications, new Controllable-Pitch Propellers and the Shipboard Integrated Machinery Control System (SHINMACS) which is produced by CAE and also used in the CPF.

e) Electrical System: (Pratt & Whitney Canada)

A 1000 kW Diesel Generator was added to the existing three Turbo Generators. Uninterrupted Power Supplies for the machinery control system were integrated into the 3-bus electrical distribution system.

f) Combat Systems: (Litton Systems Canada)

Litton Systems Canada was responsible for the integration of the following;

- Mark 41 Vertical Launch Missile System
- Standard Missile 2 Block II
- 76 MM OTTO Super Rapid Fire Gun System
- Close-in Automatic Weapon System
- Fire Control Radars and Weapon Direction System
- Torpedo Handling System
- Integrated Command Control & Communication System
- Retention/Improvement of Interior Communication and Data Link Systems
- New Electronic Warfare System (CANews, CHAFF/IR Decoys and ECCM)
- New Medium and Long Range Radars, IFF, Auto-Track Radar Management

- Integration of existing sonar and Torpedo Countermeasures into the Command & Control System
- Inertial Navigation System

VII. Market Prospects:

Of the 59 country navies assessed, there were 1131 ships identified in the cruiser/destroyer/frigate/corvette classes. Of these, 396 were identified as possibly requiring replacement or modernization. After applying an evaluation criteria which included political, economic and historic naval support, three countries with 16 older ships were identified as a potential market. (See ANNEX E)

Malaysia, Saudi Arabia and Turkey appear to offer the best potential and Saudi Arabian market is already being addressed by Saint John Shipbuilding Ltd. It is suggested that Malaysia and Turkey be considered as part of an initial marketing assessment. A "fact-finding" mission should also include those countries which may only have been rated FAIR but are in the general geographic areas. These could include; Singapore, and Greece.

This initial marketing phase should be conducted, then analysed to assess whether it would be fruitful to continue. Should a decision be then made to pursue this international market then other phases should be conducted. A more detailed marketing plan is suggested in ANNEX E.

VIII. Canadian Strengths & Weaknesses:

Canadian strengths in this sector are based on our current successful programs. The management teams are experienced and the Canadian industrial base possesses unique developments. These include control systems, integration, acoustic and IR systems and in those sub sectors where industry and government have combined to develop technologies for our own navy and for the export market.

The Canadian position is also strengthened by a history of integrating the best of foreign equipments into our new construction and modernization programs. (Every destroyer/frigate class introduced into the Canadian Navy since WW II, has integrated European and American combat systems) The participating industrial sectors are still healthy and we should take advantage of this asset.

Canadian weaknesses are primarily based on our lack of experience in this marketplace. Our potential competitors have been out there for years/decades. They have already formed their alliances, have established agents and generally enjoy strong government support. Other weaknesses in tackling this market include:

- The uncertainty of the marketplace. How many potential customers will NOT make a decision on acquiring new vessels or modernizing their older ones?
- Most of our potential customers are not cash-rich; financing will be a critical factor in assessing the market.
- Canada is not prepared to grant Export Permits to many of the countries which could use our product.
- We would have to ensure that a government - industry team could be used in an export project.
- An international marketing endeavour would require funding over the marketing period which would normally be a five year concentrated effort. An estimated cost is \$20,000. for an exploratory marketing effort plus another \$30,000. for the other three phases and a five year total of about \$130,000.
- Naval modernization includes combat systems which would have to be acquired from off-shore.

IX. Elements of a Marketing Strategy:

The following are some factors which should be addressed in a marketing strategy:

- a. Assess whether this marketing initiative should be carried out as a package or whether the individual CPF/TRUMP suppliers should be left alone to pursue their own marketing aspirations.
- b. Interest and willingness of participating companies to devote resources to an international marketing initiative.
- c. The commitment of government resources to support a marketing initiative in this sector. This should cover incoming and outgoing missions plus the availability of a CPF or TRUMP ship for demonstration purposes. It is

suggested that the active participation by a finished and operational ship is absolutely critical to any serious export market endeavour. WE WILL HAVE TO SHOW OFF OUR PRODUCT.

- d. The legality and willingness of the Crown to support an export endeavour in which civil servants and federal departments would be part of the management team as in a modernization project.
- e. The willingness of participating companies, associations, consultant group or other such bodies, to take on and lead a marketing initiative which would involve several players over an extended period, probably four or five years. This marketing initiative will require managing. There could even be a place for government.
- f. The perceived market will have to be verified. This can only be achieved by a knowledgeable marketing team which visits the prospective customers. While Trade Commissioners and Canadian Forces Military Attaches at our Posts will be able to assist in country, they do not normally have the professional background to discuss warship acquisition and modernization in any detail with the host nation's naval operations and technical staffs.
- g. The approval of government departments to release/transfer technology which was developed under these Canadian naval programs.
- h. Set guidelines and be prepared to participate in host nation consortia, particularly shipyards.
- i. Make arrangements in which optional combat, propulsion and auxiliary systems may be offered.
- j. Identify a multi-level marketing team to address the potential market and manage a marketing team and data collection/ reporting. It is suggested that the International Marketing Committee of the Canadian Maritime Industries Association might be suitable for this task.

X. References/ Acknowledgements:

References:

- (1) 1992 Janes Fighting Ships
- (2) Janes Defence Weeklies
- (3) Navy International Magazines
- (4) Other trade magazines

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GLOBAL MARKET OPPORTUNITIES REVIEW

NAVAL SYSTEMS

ANNEX A

CANADIAN PATROL FRIGATE - SYSTEMS

Saint John Shipbuilding Ltd. of Saint John, New Brunswick is the prime contractor for the Canadian Patrol Frigate (CPF) and has overall responsibility for the design, construction and delivery of the 12 ships in the class. SJSL also has the responsibility for life-cycle support services required to maintain the ships during their operational service.

The principal subcontractors to the program are Paramax Systems Canada for the combat systems and MIL Davie for the construction of three ships. The following are some of the features and combat systems equipment in the ship:

Displacement = 4750 tonnes Length = 134.1 meters
Propulsion = CODOG Helicopter = Sea King/EH 101

Weapons:

- Mk 46 Torpedoes
- RIM 7M7P Vertical-launch Sea Sparrows missiles
- RGM 84D-4 Harpoon surface-to-surface missiles
- 57 MM Bofors Gun
- Mk15 Block 1 Mod 1 Phalanx gun
- ECM Ramses Jammer
- Shield Offboard IR/chaff decoy
- SLQ-25 Nixie acoustic decoy

Sensors:

- *- CANTASS Towed Array
- *- SQS-505(V)6 Sonar
- *- UYS-503 Sonobuoy Processor
- SPS-49(V)5 Air Search Radar
- SPS-505 Air Search Radar
- SPS-504 Mk 340 Navigation Radar
- VM-25 STIR FC Radar
- IFF Mk 12
- *- SLQ-501 CANEWS ESM
- *- SRD-502 Comm. Intercept Receiver

Note: * Denotes a Canadian developed equipment

The following major Canadian companies are suppliers to the CPF project:

- | | | |
|---------------------------|---|--------------------------------------|
| Algoma Steel | - | Steel Plate |
| CAE Electronics | - | Integrated Platform Management |
| Computing Devices Canada- | | CANTASS and SHINPADS Displays |
| Davis Engineering | - | Infrared Suppression |
| General Electric | - | Gas Turbines |
| Ingersoll Rand | - | Pumps |
| Honeywell | - | Torpedo Handling |
| Internav | - | Navigation |
| Paramax Electronics | - | Combat System Design and Integration |
| Securiplex | - | Fire Detection/Damage Control System |
| SED Systems | - | Communication System |
| Spar Aerospace | - | Shipboard Integrated Communications |
| Stork Werkspoor | - | HVAC & Refrigeration |
| Thordon Bearings | - | Marine Bearings |
| Unisys | - | Computers |
| Westinghouse | - | SQS-505V Sonar |
| Wilson Machine | - | Capstan |
| Zenon | - | Reverse Osmosis Desalination |

GLOBAL MARKET OPPORTUNITIES REVIEW

NAVAL SYSTEMS

ANNEX B

TRUMP CONTRACTORS

A. Management Team: (Canadian Government- Prime Contractor)

- Department of National Defence
- Government Services Canada
- Industry and Science Canada

B. 2nd Tier Contractors:

- Shipbuilder = MIL Davie Inc
- Naval Architects = MIL Systems Engineering Inc
- Propulsion = Pratt and Whitney Canada
- Combat Systems Integration = Litton Systems Canada

C. 3rd Tier Contractors:

- Allison Gas Turbines - Bedco Div./Geroden Inc.
- CAE Industries Ltd - Canadian Marconi Co. Ltd.
- Computing Devices Canada - Cubic Corporation
- Davis Engineering Ltd. - Digital Equipment Canada
- Ferranti International - Hazeltine Corporation
- Hollandse Signaalapparaten - Honeywell Ltd.
- Hughes Missile Systems - Indal Technologies Inc.
- KB Electronics (1989) Ltd. - MAAG Gearwheel Ltd.

- Magnavox Corp.
- Marsh & McLennan Ltd.
- Marconi Underwater Systems
- Martin Marietta Aerospace & Naval Systems
- Norris Warming Canada Ltd.
- Otto Melara S.p.a.
- Paramax Systems Corpn
- Prior Data Sciences Ltd.
- Raytheon Co.
- Robert Mitchell Inc.
- Securiplex Technologies
- SPAR Aerospace Ltd.
- Stewart & Stephenson
- Software Kinetics Ltd.
- Stone Marine Canada Ltee
- Thorn EMI Electronics
- Vitron Corporation
- Westinghouse Canada Inc.

GLOBAL MARKET OPPORTUNITIES REVIEW
 NAVAL SYSTEMS

ANNEX C

FOREIGN CAPABILITIES - NAVAL SHIPYARDS

The following foreign shipyards, (The Russian/CIS yards have been omitted) have recent experience in building/ repairing/ modernizing naval combatants in the destroyer/ cruiser, frigate and corvette classes.

Country	Shipyard
Australia	Australian Marine Engineering
China	Zhonghua
Denmark	Svendborg
France	Chantier de L'Atlantique Lorient Dockyard
Germany	Blohm + Voss Bremer-Vulcan Howaldswerft
Greece	Helenic Shipyards
India	Garden Reach Mazagon Dock
Italy	Fincantieri
Japan	Mitsubishi Mitsui Sumitomo
Netherlands	de Schelde
Spain	Bazan
Taiwan	China Shipbuilding
Turkey	Golcuk
U.K.	Swan Hunter Vosper Yarrows
U.S.A.	Avondale Bath Iron Works Ingalls

- GLOBAL MARKET OPPORTUNITIES REVIEW
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 -

- Foreign Shipyards
 -

FOREIGN CAPABILITIES - NAVAL SHIPYARDS

The following table lists shipyards (the Russian/CIS yards have been omitted) have recent experience in building (repairing) modernized warship classes in the destroyer, cruiser, frigate and corvette classes.

Country	Shipyard
Australia	Scott's Shipbuilding & Repairing
China	Zhonghua Shipyard
Denmark	Svendborg
France	Chantier de l'Atlantique Lorient Dockyard
Germany	Blohm + Voess Bremer-Vulcan Howaldtswerft
Greece	Helios Shipyard
India	Godan Reach Mazagon Dock
Italy	Fincantieri
Japan	Mitsubishi Mitsui Sumitomo
Netherlands	de Scheide
Spain	Bazan
Taiwan	China Shipbuilding
Turkey	Golcuk
U.K.	Swan Hunter Vosper Yarrow
U.S.A.	Avondale Bath Iron Works Ingalls

GLOBAL MARKET OPPORTUNITIES REVIEW
NAVAL SYSTEMS

ANNEX D

WORLD-WIDE ACQUISITION & MODERNIZATION - MARKET OPPORTUNITIES

In assessing the international market opportunities for naval systems, several factors have been considered and applied to the 59 world fleets assessed.

Marketing Factors:

- a. Only ships classified as cruisers, destroyers, frigates and corvettes were assessed. In some fleets, it was difficult to break out Fast/ Large Patrol Boats from corvettes, therefore, the in-country description was used.
- b. If ships in these classes were either older than 20 years or if the combat and propulsion systems had not been modernized for some 15 years, the ship was considered as a potential market target.
- c. Political: If either the denial of a Canadian Export Permit or in-country politics would preclude a sale in the near future, this factor would result in a NIL rating.
- d. Financial: If it was obvious that the country does not have sufficient funding for fleet modernization or if financing from Canada would be difficult, this would result in a POOR rating.
- e. Established Supplier: Where there was an historic ship supplier, a rating above FAIR would not be assigned.

Market Assessment:

Four market assessment ratings were allocated; GOOD, FAIR, POOR and NIL.

GOOD:

This assessment was given if the ship/combat system fell into the older (20/15 years) category and none of the above restrictions were applicable.

FAIR:

This was awarded if there was doubt about giving it a GOOD.

POOR:

A POOR was awarded if there was even a slight possibility of a sale.

NIL:

There was absolutely NO possibility of a Canadian team being successful in marketing this naval modernization capability/.

Opportunity Assessment	No. of Countries	Total in Fleets	Replacement or Modernization
NIL	17	631	174
POOR	17	232	91
FAIR	22	238	108
GOOD	3	24	23
Total	= 59	1131	396

MARKET ASSESSMENT

Note: Only countries with cruisers, destroyers, frigates and corvettes were assessed.

Country	Total in Fleet	in need Mod'z'n	Polit-ical	Finan-cial	Est. Supplier	ASSESS-MENT
Algeria	7	0	X			POOR
Argentina	13	2	X	X	UK/GER	FAIR
Australia	11	6			Aust/UK	FAIR
Bangladesh	4	3		X	UK	POOR
Belgium	4	0				FAIR
Brazil	18	6	X	X	Uk/Ger	FAIR
Bulgaria	11	9	X	X	Russia	NIL
Burma	4	4	X	X		POOR
Chile	9	8	X	X	Neth/UK	POOR

China	55	46	X		China	NIL
Colombia	4	0		X	Ger/US	FAIR
Cuba	4	3	X	X	Russia	NIL
Denmark	7	0			Europe	FAIR
Dom'n Rep.	6	6	X	X		NIL
Ecuador	8	2		X	UK	FAIR
Egypt	5	1		X	UK/US/Russ	POOR
Ethiopia	3	3	X	X	Russia	NIL
France	41	7	X		France	NIL
Germany	17	6			Europe	POOR
Greece	16	11		X	Ger/US	FAIR
India	39	7	X		Ind/Russia/UK	POOR
Indonesia	17	13	X	X	Neth	FAIR
Iran	8	8	X	X	US/Ger/Fr	NIL
Ireland	1	0		X	UK	FAIR
Italy	32	11			Italy/Eur	NIL
Japan	57	26			US/Japan	POOR
Korea (NORTH)	3	2	X	X	Russia	NIL
Korea, Rep.	42	9			US/Europ	FAIR
Libya	10	1	X	X	Italy	NIL
Malaysia	4	2			Ger/UK/Italy	GOOD
Mexico	8	8		X	US	FAIR
Morocco	1	0				POOR
Netherlands	16	2			Europe/Neth	POOR
New Zealand	4	4			UK/Aust	FAIR
Nigeria	5	1	X	X	Europe	POOR
Norway	7	7			Europe	FAIR
Oman	2	0			UK	POOR
Pakistan	16	16	X	X	US/UK	FAIR
Peru	11	8	?	X	Neth/UK	FAIR
Philippines	3	3		X	US	POOR
Poland	6	1	X	X	Russia	NIL
Portugal	17	14		X	Spain/Europe	FAIR
Romania	17	3	X	X	Russia	NIL
Russia/CIS	289	50	?	X	Russia	NIL
Saudi Arabia	8	0			Fr/UK/US	GOOD
Singapore	6	0			Europe/US	FAIR
Spain	19	5		X	Spain/Europe	POOR
Sweden	6	0			Sweden/Europe	POOR
Syria	2	2	X	X	France	NIL
Taiwan	37	24	X		US	POOR
Thailand	15	6		X	Europe	FAIR
Tunisia	1	1		X	US	POOR
Turkey	20	14		X	US/Ger	GOOD
UAE	2	0			UK	FAIR
UK	42	16			UK	NIL
USA	96	0			US	NIL
Uruguay	3	3		X	Fr	FAIR
Venezuela	6	0		X	It/Ger	FAIR
Yugoslavia (x)	6	6	X	X	Russia	NIL

GLOBAL MARKET OPPORTUNITIES REVIEW

NAVAL SYSTEMS

ANNEX E

INTERNATIONAL MARKETING PLAN

As noted in the Market Prospects section and Annex D, there is a potential market, however, this potential will have to be verified by an actual visit to the prospective country by a technically competent group.

Marketing Teams:

It would appear that there is a requirement for three marketing teams;

Team A:

One government person, technically competent in discussing naval technical matters.

Team B:

A fact-finding team of three persons who could conduct preliminary technical discussions.

- Government (DND/GSC/ISC/EAITC)
- Industry = Design/ shipbuilder
- Industry = Combat system integrator

Team C:

A technical team of some 6 persons who could participate in full technical discussions on the customer's project. This team would act as a follow-up team to those countries identified as having immediate potential.

- Government = DND
- " = GSC/ISC
- Industry = Shipbuilder
- " = Designer
- " = Propulsion
- " = Combat Systems Integrator

Suggested Marketing Approach:

A four-phase marketing approach is suggested;

PHASE I: (Asia)

Since the two most likely customers appear to be Turkey and Malaysia, it is suggested that the first marketing effort be directed at them and at the same time, visit those FAIR-rated countries in that general South West Asia/Eastern Europe area.

Targets:

Greece, Malaysia, Pakistan, Singapore, Thailand and Turkey.

Time Required:

Two Weeks

Participants:

Team B (3 persons)

Cost:

\$25,000.

Note: Saudi Arabia is already being addressed in a separate SJSL initiative.

Phase II: (South America)

In a similar Marketing Review on the Maritime Coastal Defence Vessel, South American navies were identified as having the best marketing potential. This Phase should integrate with the MCDV marketing team.

Targets:

Argentina, Brazil, Colombia, Mexico, Peru, Uruguay and Venezuela.

Time Required:

Two weeks (15 days)

Participants:

Team A, if combined with the MCDV team or Team B if conducted independently.

Cost:

Team A = \$5,000.

Team B = \$15,000.

Phase III: (Europe)

Targets: Belgium, Denmark, Norway and Portugal

Time Required: One week

Participants: Team B.

Cost: \$8000.

Phase IV: (Australasia)

Targets: Australia and New Zealand

Time Required: One week

Participants: Team B

Cost: \$8000.

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