ARCHIVED REPORT

For data and forecasts on current programs please visit

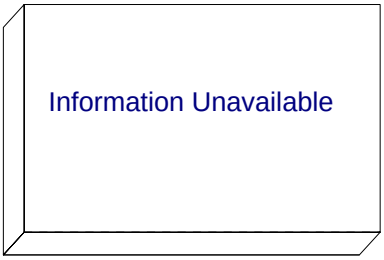
www.forecastinternational.com or call +1 203.426.0800

Indal Technologies - Archived 12/2001

Outlook

- Export sales represented more than 95 percent of Indal Technologies' annual sales
- Indal has expanded into modular minesweeping equipment
- Funding cuts not expected to be as severe as those of other defense manufacturers due to Indal's narrow product niche

Sales & Net Income Trends



Headquarters

Indal Technologies Inc
3570 Hawkstone Road
Mississauga, Ontario L5C 2V8
Telephone: (905) 275-5300
(800) 263-7340 from US only

Indal Technologies Inc (ITI), together with its Fathom Oceanology Limited and the H. I. Thompson Company product lines, combines a high level of engineering and manufacturing capability with expertise in the management of large and complex defense programs to produce solutions in handling and support systems, as well as specialized structures and aerospace components.

Since its incorporation in 1951 under the name Dominion Aluminum Fabricating Ltd, ITI has developed its engineering design and manufacturing capabilities and is now heavily involved in systems integration and testing, while relying on subcontractors for much of its machining work. This blend of engineering design and manufacturing has enabled the company to become a world leader in the design and development of sophisticated systems for the defense and marine industries as well as in specially engineered products. In 1968, the company became a member of the Indal Group of companies and changed its name to DAF Indal Ltd in 1977, and ultimately to Indal Technologies in 1985. In November 1989, Indal Technologies acquired Fathom Oceanology Limited and the H. I. Thompson Company, to further strengthen and enhance its overall capabilities.

Indal Technologies employs an estimated 160. Indal's parent company, Indal Limited, is a diversified organization with numerous operating subsidiaries in Canada and the United States. Founded in 1964 as a small extruder of aluminum and a producer of cold roll-formed metal products, Indal Limited employs an estimated 9,000 people at more than 60 locations in North America. Indal's strengths are enhanced by its owners, Caradon plc of the United Kingdom. The businesses owned by Caradon employ approximately 25,000 in the UK, Europe, the US and Canada.

Structure and Personnel

Vincent P. Lacey
President and Chief Executive Officer

Product Area

Since its incorporation, Indal Technologies has grown steadily through the development of facilities which provide a specialty range of engineered products. Indal Technologies maintains a large engineering department staffed by professional engineers of many disciplines including mechanical, electrical, structural, aerodynamics, hydraulics, electro-optics, electronic, hydrodynamic, maintainability, reliability, safety software, and systems engineering. The company manages its business in the following manner:

1. Indal Technologies
1.1 Specialized Structures
1.2 Aircraft Handling Systems
2. Fathom Oceanology
2.1 Cable Handling Systems
3. The H. I. Thompson Group
3.1 Aerospace Components

Specialized Structures. Indal Technologies is an acknowledged expert in the field of specialized aluminum structural fabrication work, and has been certified by the Canadian Welding Bureau as meeting the requirements of CSA Standard W47.2 "Aluminum Welding Code." Typical of the specialized structural design and fabrication work undertaken by Indal Technologies is a frangible ILS localizer support structure designed to break away on impact. Indal Technologies built a prototype enclosure for the new MLS antenna system scheduled to replace ILS antennas across Canada by the year 2000. Other work for Transport Canada has included the design and fabrication of a 100 ft telescopic mobile monitoring antenna mast and range towers for coastal navigation. Other work performed by Indal Technologies in this field includes the design and fabrication of antenna support towers, the fabrication of radar reflectors, radomes, and space frame hangar systems.

Aircraft Handling Systems. Indal Technologies is a world leader in the development and supply of shipboard helicopter support systems as employed on helicopter-carrying ships operated by navies and coast guards worldwide. Variants of the Indal helicopter recovery assist systems are now employed on vessels operated by the navies of Argentina, Australia, India, Japan, Spain, Taiwan and the US. These systems include any or all of the following: helicopter recovery assist and securing transversing systems, telescopic hangars, and hangar doors. The Indal Technologies RAST (Recovery Assist, Securing and Traversing) system is a key element of the US Navy's LAMPS Mk III program. Over 100 ships will be fitted with this system. A prototype system of a new configuration called ASIST, an acronym for Aircraft Ship Integrated Secure and Traverse System, has been assembled and tested at Indal Technologies' plant. This new system will revolutionize helicopter ship operations in such areas as cost, weight, space, complexity, integrated logistics support, reliability and maintainability, and mission time requirements. ITI has also developed the Helicopter Independent Maneuvering System (HIMS). The HIMS lifts and transports large skid-mounted helicopters safely and precisely into the confined area of a hangar or aircraft. Unlike conventional labor-intensive methods of moving heavy helicopters, the self-propelled HIMS, with its unique differential-lift system, requires only a single operator. Indal Technologies is the originator of the unique telescopic hangar that is employed on many navy and coast guard vessels that have flight deck space limitations. About 200 hangars and 400 hangar doors supplied by the company are in service with numerous agencies, principally the US Navy, US Coast Guard and the Canadian Coast Guard.

Cable-Handling Systems. ITI's Fathom Oceanology product line includes lightweight dipping sonar winches, torpedo decoy handling systems, and integrated systems such as tactical towed line array and variable-depth sonar handling systems used by the navies of Italy, Norway, Singapore and Sweden. ITI is now the world's leading supplier of handling systems for active towed sonars. In conjunction with Plessey Naval Systems and the Canadian government, the company has developed a lightweight and high-performance dipping sonar winch for the airborne Cormorant sonar. The system has undergone extensive testing by the Canadian and United States navies. Fathom also manufactures the Nixie torpedo decoy handling system for the Canadian Navy.

Unmanned Vehicle Support Systems. Indal Technologies Inc developed artificial vision systems to enable accurate landing of unmanned air vehicles on naval vessels at sea, as well as vision systems, launch/recovery platforms, system preflight checking, and vehicle transporting by remote control. ITI is participating with the US Joint Program Office and NATO to establish standards for precise UAV recovery and handling.

Aerospace Components. ITI produces the H. I. Thompson product line of components for thermal, acoustic, and personnel shielding in the aerospace,

defense, power-generating, heavy equipment and marine equipment fields.

Facilities

Indal Technologies, 3570 Hawkstone Road, Mississauga, Ontario L5C 2V8.

Fathom Oceanology Limited, Mississauga, Ontario.

H. I. Thompson, 10 Kingsmill Ave, Box 906, Guelph, Ontario N1H 6M6.

Corporate Overview

Indal Technologies Inc, based near Toronto, Ontario, designs and manufactures high-technology systems for aerospace, marine, defense and commercial applications. The company employs approximately 160 highly skilled workers at its three facilities in southern Ontario. It maintains a large engineering department, staffed by professional engineers of many disciplines, supported by design draftspersons proficient in related fields and by computer-aided engineering facilities. A program-management, cost- and schedule-control system has been developed and validated by the US Navy which, with the appropriate quality assurance programs up to AQAP-1 or equivalent, make Indal Technologies well-qualified to take on major contracts.

New Products and Services

No data concerning new products or services has been reported by Indal in the past year.

Plant Expansion/Organization Update

Indal Technologies Inc has reported no information concerning any plant expansion, modernization or organizational changes.

Mergers/Acquisitions/Divestitures

No major mergers, acquisitions or divestitures concerning Indal have taken place in the last three years.

Teaming/Competition/Joint Ventures

Mitsubishi Canada. These companies have signed a contract to provide a helicopter hauldown rapid securing device for the Japanese Maritime Self-Defense Force's new series of frigates. Indal has already provided 24 systems to the Japanese forces.

Financial Results/Corporate Statistics

Indal Technologies Inc is a wholly owned subsidiary of Indal Limited and does not publish financial statistics.

Strategic Outlook

Export sales represented more than 90 percent of Indal Technologies' annual sales (estimated at around C$58 million), a large portion of which is for the US military, principally the US Navy. As a component supplier to warship programs, its products are subject to the same factors that currently affect the world's navies. However, two of the company's main product lines, aircraft handling systems and cable handling systems, are expected to have bright futures. In the area of aircraft handling systems, any ship equipped with a helicopter is expected to incorporate either the RAST or ASIST system for helicopter recovery.

In the cable handling system market, the news is also good. With all new US warships (and many retrofits), including towed arrays in their designs, the cable handling systems required to utilize the sonars are likewise going to be in demand. Since towed-array systems are among the best means of detecting submarines, many countries around the world will be including them on their ships. Indal will only benefit from the increased proliferation of the towed array sonars as it sells its cable handling systems to meet the demand.

Building on its cable handling expertise, Indal has expanded into the area of modular minesweeping equipment. The contract for the design and manufacture of two systems for the Canadian Maritime Coastal Defence Vessel could lead to future international sales due to the system's modular design.

One of Indal's remaining vulnerabilities is its reliance on the US Navy for a majority of its contracts. As defense cuts continue, Indal is going to be affected by force structure reductions in the US as well as in Canada. As a manufacturer of such a specific product – helicopter handling systems that can easily be retrofitted onto existing ships – the cuts that the company faces are not expected to be as severe as those of other defense manufacturers, since it can make up sales in the aftermarket instead of at the time the ship is built.

Prime Award Summary

A listing of Indal Technologies Inc's prime contract awards is provided below.

($ millions)	1995	1996	1997	1998	1999
NAVY	0.2	0.1	0.2	0.0	0.2

Program Activity

Some important aerospace and government programs currently under way at Indal Technologies are listed below. The briefs are intended to provide a listing of programs that are of major importance to the company. For detailed information or analysis of specific aerospace and defense programs or equipment, please refer to the appropriate FORECAST INTERNATIONAL binder (for example, AIRCRAFT, MILITARY VEHICLES, WARSHIPS, MISSILES, ELECTRONICS, and GAS TURBINES). The following is an outline of the company's business interests:

- Aircraft Components
- Unmanned Vehicles
- Warships

Specialized Structures

The company's structural engineering skills, combined with its experience in the machining and fabrication of aluminum, steel and other materials, provide ITI with the resources required for the design, development and production of specialized structures.

Shipboard Structures

Indal Technologies is the world's largest supplier of shipboard telescopic hangars and hangar doors engineered to withstand severe wind loads, ship motion, shock and blast. The company has supplied over 60 high-strength sliding doors for the US Navy's DD-963 and DD-993 destroyer classes and all CG-47 Ticonderoga-class AEGIS cruisers. The company has also provided hull-mounted sonar domes and transducer hoisting equipment on ships in the Belgian, Canadian, Dutch and Portuguese navies.

Enclosures

ITI's computerized structural modeling capabilities expedite creation of custom designs to meet specific requirements. An example is ITI's transportable military shelters, which can be adapted for many applications ranging from a tactical command post to an equipment maintenance center. In addition, ITI has applied its capabilities to meet requirements in the manufacture of satellite containers and acoustic enclosures for gas turbines.

Cable-Handling Systems

ITI's Fathom Oceanology product line consists of sophisticated cable-handling systems for aircraft, submarine and surface ship applications used by its customers in defense, commercial and scientific sectors. Individual subsystems, as well as fully integrated systems, are produced for anti-submarine warfare and countermeasures requirements of the Canadian Navy, as well as defense forces of several other nations.

Variable-Depth Sonar (VDS) Handling Systems

ITI is the world's leading supplier of handling systems for towed-array active sonars. The company's range of VDS systems is currently in use with the navies of Finland, India, Italy, Norway, Singapore, Sweden and the United States.

Tactical Towed Line Array Handling Systems

In developing systems for the Canadian and US navies, ITI has established in-house expertise in the design, manufacture and test of handling systems for tactical towed line arrays. In addition to supplying complete systems, the company also supplies components and subsystems to prime contractors in the United States. The company also manufactures towed bodies in a variety of sizes and materials with low acoustic signals.

Lightweight Dipping Sonar Winch

The Fathom Oceanology product line includes lightweight, high-performance dipping sonar winches. These systems have been successfully tested in helicopters by both the Canadian and United States navies.

Torpedo Decoy Handling Systems

The Nixie torpedo decoy handling subsystem is another Fathom Oceanology product manufactured for the Canadian and the United States navies.

Unmanned Vehicle Systems

ITI's experience and capabilities in helicopter handling systems have been applied to the design and development of shipboard systems for launch, recovery, handling and stowage of vertical take-off and landing unmanned air vehicles (UAVs). Shore and shipboard flight trials have proven the concepts. As a result of the successes achieved to date, ITI is expanding its expertise to include support of unmanned vehicles in all environments and missions, such as underwater, sea-surface, land, air and space. In addition to designing and developing products for unmanned vehicle operations, ITI participates in industrial support groups with NATO and the US Department of Defense.

Canadair CL-227

Indal Technologies' launch and recovery systems provide for efficient handling of unmanned air vehicles, such as the Canadair CL-227.

Gayrobot Pluto Plus

ITI incorporated Gayrobot's Pluto Plus remotely operated undersea vehicle into its product line for the Canadian market in 1991.

Aerospace Components

Indal Technologies' H. I. Thompson product line includes components for thermal, acoustic and personnel shielding applications in the aerospace, defense, power-generating, heavy equipment and marine equipment fields. Fabric components incorporate the latest protective fiber or metallic foils and provide solutions for a wide range of heat-transfer, personnel-protection and noise-abatement requirements. Heavy-gauge shields, weldments and subassemblies are supplied for aircraft and engine manufacturers of off-road construction equipment. ITI's heat shielding and noise-abatement products are used in many major commercial airliners, including the Boeing 747. The Boeing de Havilland Dash 8 also incorporates ITI shielding products in its Pratt & Whitney Canada PW100 turboprop engines.

* * *