

# ITS Electronics Inc.

Not only is ITS Electronics of Concord, Ontario, manufacturing communications products for use in at least two major weapons systems of the U.S. "missile defense" program, the development of these products has been directly—and proudly—supported by the Canadian government.

Over one million dollars in government financing has flowed to ITS through at least three Canadian government agencies: Defence Research and Development Canada (DRDC), Industry Canada's Technology Partnerships Canada (TPC) and the National Research Council (NRC) of Canada. That's a sizable influx of money for ITS, which exports between \$500,000 to \$1 million worth of products per year.<sup>1</sup>

## Defence Research & Development Canada

Operating under the auspices of the Department of National Defence, DRDC is the government's prime military R&D institution. During fiscal year 1999-2000 alone, DRDC gave ITS Electronics about \$198,000. This grant was given under the aegis of DRDC's Defence Industrial Research (DIR) projects.<sup>2</sup>

DRDC has openly

bragged about its role in funding ITS research that was specifically designed to aid and abet the U.S. in two separate areas of the U.S. "missile defense" weapons development program. In its 1999-2000 annual report, DRDC said:

"Current and previous DIR projects have resulted in low-noise amplifier products for such applications as ... the Rockwell Collins Exo-Atmosphere Kill Missile [sic], [and] the U.S. THAAD [Theater High Altitude Area Defense] system."<sup>3</sup>

(See below for a Missile Defense Agency description of THAAD.)

## ExoAtmospheric Kill Vehicle

What DRDC mistakenly refers to as the "Exo-Atmosphere Kill Missile" is actually called an "ExoAtmospheric Kill vehicle" (EKV). The U.S. Arms Control Association defines an EKV as

"a compact array of sensors and propulsion mechanisms that is lifted into

space by a powerful booster. Once in space, the kill vehicle is supposed to separate from its booster and home in on an enemy warhead in space. The kill vehicle is not armed with an explosive device or warhead but destroys its target through a high-speed collision."<sup>4</sup>

DRDC's annual report (1999-2000) also errs by identifying the EKV as a product of Rockwell Collins. In fact, the prime contractor responsible for designing and developing EKV's for the "missile defense" weapons program is Raytheon. Here's how Raytheon describes its EKVs:

"The Exoatmospheric Kill Vehicle (EKV) is the intercept component of the Ground Based Interceptor (GBI), the weapon element of the Ground-based Midcourse Defense System. Its mission in the defense of the nation is to engage high-speed ballistic missile warheads in the midcourse phase of flight and to destroy them using only the force of impact, or hit-to-kill.

EKV consists of an infrared seeker in a flight package used to detect and discriminate the incoming warhead from other objects. The EKV also has its own propulsion, communications link,



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## Theater High Altitude Area Defense (THAAD)

The Theater High Altitude Area Defense (THAAD) is a terminal phase defense element designed to protect against short- and medium-range ballistic missiles and would provide surveillance support to the Ballistic Missile Defense System for ballistic missiles of all ranges. The system is unique compared to other terminal phase interceptors in that it works both within and outside the Earth's atmosphere.

The system consists of a launch vehicle, radar, interceptor and battle management, command and control system. THAAD is mobile and can be deployed by air (C-141 aircraft or larger), sea, rail or road. The interceptor missile is a non-explosive hit-to-kill vehicle that



**THAAD weapons can be launched from trucks**

is attached to a missile body/booster. The THAAD kill vehicle includes an infrared seeker that detects and homes in on the target missile to destroy the target by high-speed collision. The interceptors are transported in a missile round pallet that is mounted on to a modified U.S. Army Heavy Expanded Mobility Tactical Truck, which serves as both the transporter and launcher for the THAAD interceptor missile. The THAAD radar is a wide-band, X-band, single-faced, phased array radar system that provides wide area surveillance capability.

**Source:** Theater High Altitude Area Defense. Missile Defense Agency website: [www.mda.mil](http://www.mda.mil)

discrimination algorithms, guidance and control system and computers to support target selection and intercept.”<sup>5</sup>

Rockwell Collins is certainly involved in building EKV's. It makes the communications systems for EKV's as well as for other “missile defense” weapons. Rockwell is, in fact, a major subcontractor for Raytheon's EKV's and for the Kinetic Energy Interceptor (KEI) which is another “missile defense” weapon. It is being produced by a corporate team comprised of the Northrop Grumman Corp. and Raytheon.<sup>6</sup>

ITS Electronics is so proud of its status as a valued supplier of high tech, communications-system components to Rockwell Collins that they have placed this information on the front page of their website. ITS also tells readers that their company has been the “recipient of a Top Supplier award” from Rockwell Collins. They do not however mention that Rockwell is a prime contractor for “missile defense” weapons.<sup>7</sup>

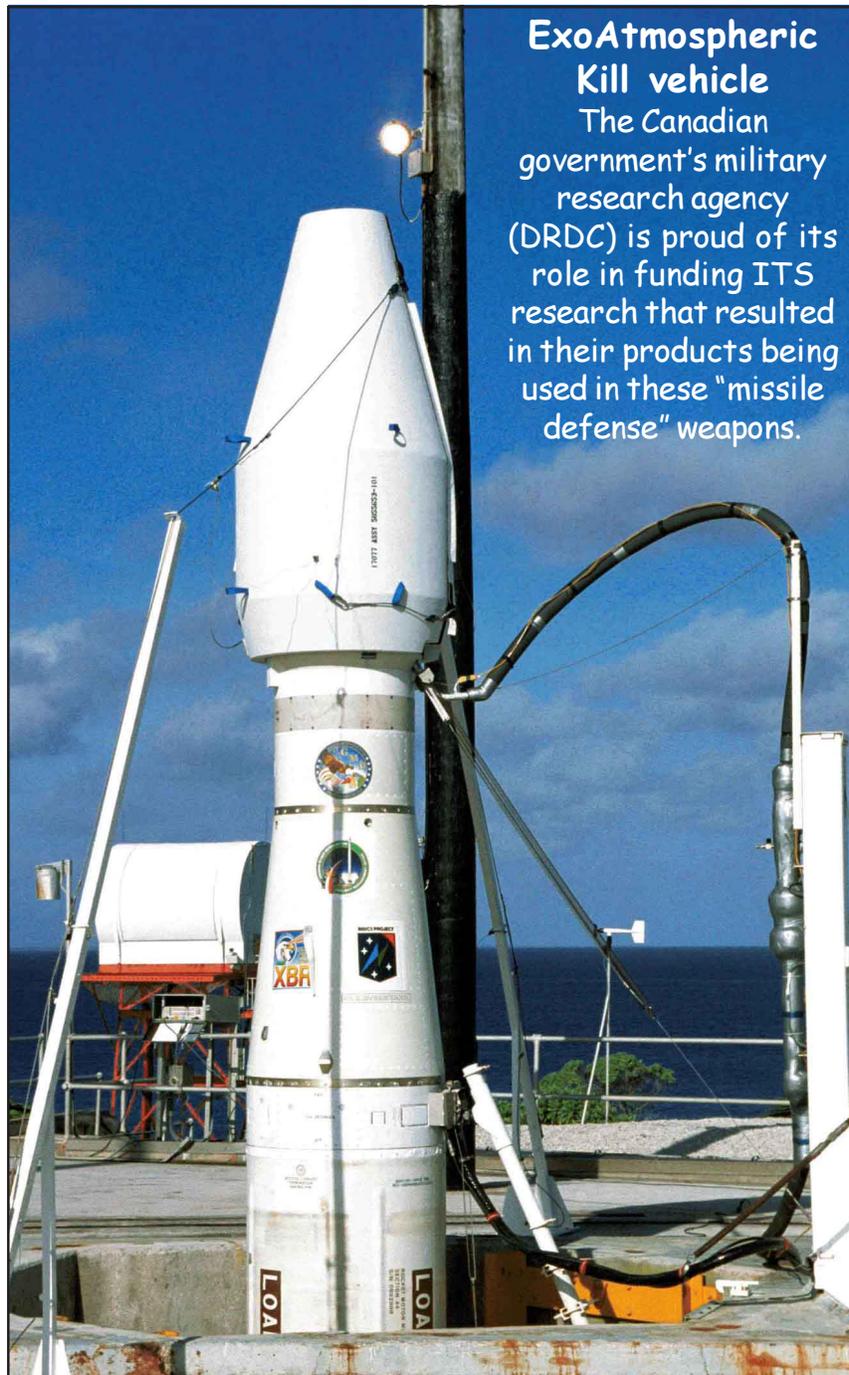
Since DRDC's grant to ITS in 1999-2000, Rockwell Collins has received a similar “missile defense” subcontract to “supply both the air and ground portions of the communication system” for the

“Kinetic Energy Interceptor (KEI) missile defense system to a Northrop Grumman Corp. and Raytheon Co. team.”<sup>8</sup>

The US\$4 billion KEI program<sup>9</sup> is supposed to “destroy enemy ballistic missiles during their boost/ascent phase of flight.”<sup>10</sup> Whether it is able to achieve this goal is speculative. However, the contract is expected to be successful in generating US\$100 million<sup>11</sup> for Rockwell Collins. Whether or not ITS is also supplying communications hardware to Rockwell Collins for the KEI is, however, unknown.

This was not the first time that DRDC had given research funds to ITS. In fiscal year 1998-1999, DRDC gave ITS a “Defence Industrial Research” (DIR) program grant of \$128,432 to study “Advanced Agile Frequency Sources for Defence Applications.”<sup>12</sup>

Then, in the following year (1999-2000), ITS received an additional \$197,900 from DRDC for its continuing work on the same DIR project.<sup>13</sup> This brought the total up to \$326,000.



**ExoAtmospheric Kill vehicle**  
The Canadian government's military research agency (DRDC) is proud of its role in funding ITS research that resulted in their products being used in these “missile defense” weapons.

This research by ITS, has to do with extremely low-phase noise signal and waveform generation required by radar. Such research has very definite applications for the U.S. “missile defense” program. The Small Business Innovation Research Program (SBIRP) of the Missile Defense Agency (MDA) publishes a list of topic areas that are eligible for R&D grants. Companies doing research that fits into these categories can submit proposals to receive funding from the MDA. Two of the topic areas listed in this MDA publication refer to “low phase noise signal generation.” They are listed under the following codes: MDA 03-015 and MDA 04-50.<sup>14</sup>

OEWaves Inc., a company that eventually did receive a contract from the MDA for this work noted in its media release that

“over 1,860 proposals [were] submitted to [the MDA's SBIRP to] develop a Radar-Optimized Opto-Electronic Oscillator that will generate reference signals in the X-band and at higher frequencies with extremely low phase noise.”<sup>15</sup>

Whether Canada's ITS Electronics submitted one of those unsuccessful proposals is not known. However, as we've seen, ITS was fortunate enough to have received, from Canada's own DRDC, a generous funding allocation of \$326,000 for this research.

## Industry Canada

Then, in fiscal year 2001-2002, ITS Electronics received a \$900,000 grant from Technology Partnerships Canada (TPC), a corporate welfare program run by Industry Canada that largely benefits Canada's military industries. (For more on this, see "Industry Canada's Support for War and BMD," pp. 32-33).

TPC's grant to ITS was for "upgrading its ISO 9001 accreditation to incorporate the AS 9001 quality standards while developing advanced systems for the automated manufacture of wireless communications products."<sup>16</sup>

Some may argue that this large government handout to ITS Electronics was not strictly limited to its "missile defense" research. The grant did however subsidise the military communications-related work performed by the company, including its contracts for communications products destined for "missile defense" weapons systems like EKVs and THAAD. As such, this \$900-thousand grant from the Canadian government will likely assist ITS Electronics in its future bids for "missile defense"-related contracts.

## National Research Council

ITS has also benefited from yet another Canadian government scientific research institution that prides itself on serving the needs of domestic military corporations, namely the National Research Council (NRC) of Canada. ITS appears on a list of "Partners and Collaborators" in the "Components Program" of NRC's Institute for Microstructural Sciences (IMS). The IMS website

explains that its program "performs research into novel device development of interest to the high tech sectors."<sup>17</sup>

NRC's IMS also assists businesses by offering "access to world-class expertise in R&D, technical services and licensing of patented technology to meet [business] needs in product innovation, technology de-risking and reduction of time-to-market."<sup>18</sup>

**ITS Electronics has received considerable support, including much public funding from its greatest ally, the government of Canada. Thanks Canada!**

## ITS Corporate Clients: A Who's Who of "Missile Defense"

The ITS website lists only a few of its 200 corporate customers. It describes them as a "Who's Who" of major Communications organizations."<sup>19</sup> At the very top of the ITS client list is Boeing. It (coincidentally?) is the world's number one prime contractor for "missile defense" weapons systems. Several of the other companies that ITS lists as purchasers of its communications products, are also known to be contractors for the U.S.-led "missile defense" weapons development pro-

gram. In fact, nine of the top thirteen corporate clients (i.e., 69%) that ITS lists online, are "missile defense" contractors:

- ◆ Allied Signal
- ◆ Alcatel
- ◆ Boeing
- ◆ British Aerospace
- ◆ EMS Technologies
- ◆ Harris
- ◆ L-3 Communications
- ◆ Motorola
- ◆ Raytheon<sup>20</sup>

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