

**CANADIAN POLICE  
RESEARCH CENTRE  
1999-2000**

**ANNUAL REPORT**

*10<sup>th</sup> Anniversary*



[www.cprc.org](http://www.cprc.org)

Canada



## Canadian Police Research Centre

This Annual Report is a publication of the Canadian Police Research Centre. For additional copies or further information contact:

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Cat. No. JS61-3/2000  
ISBN 0-662-65060-3  
ISSN 1181-6244  
PAID 411



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## **Chairman's Message**

I am honoured to have been named as the Chairman of the CACP Operational Research Committee and I look forward to my association with the Canadian Police Research Centre.

This year marks the 10th anniversary of the CPRC, an outstanding collaboration between the Canadian Association of Chiefs of Police, the Royal Canadian Mounted Police and the National Research Council. With this in mind, our annual report will feature the Top 10 projects accomplished in the first ten years. Among the projects highlighted are:

- Forensic Entomology
- InvestigAide
- Blast Suppressant Foam Containment System
- Bomb Suit
- Geographic Profiling

One extremely exciting new initiative currently being developed by CPRC staff is PS3. PS3 stands for "Paradigm Shift in the 3rd Millennium." It is a co-operative venture designed to develop, test and provide new public safety information technologies, services and products. These public safety information technology solutions, together with long distance training, will be delivered over a secure application service provider for the benefit of law enforcement agencies across the country and around the world.

Within our organizations, front line police officers now gather incredible amounts of information. We use complex tools to analyze that information and produce useful reports and summaries which have meaning to us and to communities who wish to become involved in promoting security in their neighbourhoods. We need to develop strategies and tools to make that communication with the public both timely and effective.

Overall, a new philosophy is emerging. It is one that recognizes the importance of communication and the ability of technology to ensure that communication is timely. There is an emphasis on co-ordination of activities so that nothing slips between the cracks as it has in the past. We have in place new strategies to improve co-operation and reduce the possible effects of jurisdictional jealousies of all sorts. In my view, these represent a necessary change in policing methods and strategies and are overdue. We have learned lessons from the past and have put into place the systems necessary to ensure we meet the challenges of the future. I hope that through the work underway at the Canadian Police Research Centre, we will continue to advance the application of the new philosophy.

Looking to the future, CPRC staff will seek to strengthen international contacts, especially with the Police Scientific Development Branch in the United Kingdom and with the National Institute of Justice in the United States. There is much to be learned and shared.

I look forward to working with the policing community and other partners from the public and private sectors across the country and around the world who recognize the importance of the Centre's mission.

Chief Vince Bevan  
*Chairman, CACP Operational Research Committee*



## **Introduction to the Canadian Police Research Centre**

**Mission:** To provide leadership and focus for a national program of research, development, evaluation and commercialization in the law enforcement and public safety sectors in Canada.

**Goal:** To see that the best equipment and information is available to the Canadian police community and to offer Canadian expertise and enterprise an opportunity in this specialized field.

The CPRC is a partnership between the Canadian Association of Chiefs of Police (CACP), the Royal Canadian Mounted Police (RCMP) and the National Research Council (NRC) Canada and is staffed by personnel from the RCMP and NRC. Its structure and terms of reference allow it to deal effectively with police equipment and information research, development and evaluation.

The objectives of the CPRC can be summarized as follows:

- to develop the best tools (equipment and information sources) for the police community;
- to strive to keep necessary technology affordable;
- to forge partnerships with Canadian industry and the national and international research community.

The CPRC strives to ensure that the interests of the Canadian police community are best served with the available resources. The ultimate objective is to ensure that CPRC expenditures result in the timely transfer of technology to the police user for greater safety, increased efficiency and effectiveness.

The CPRC has a national focus, a single coordinated effort to support research and develop technologies for Canada's law enforcement community, and it promotes interaction between the police community, government, industry, universities and other research organizations.

The CPRC ensures that research results, expertise, information and facilities are shared among all partners. Equally important, the CPRC provides "technology partner" evaluation services to Canadian police agencies, participating government agencies, security firms, and Canadian industry. This benefits Canadian industries by giving them an opportunity to test security oriented products under operational conditions. Canadian products are thereby given credibility to compete successfully in domestic and international markets.

The collaborative effort of the CACP, RCMP and NRC continues to result in the sponsorship of numerous research projects and in the development of new products and information sources for the public safety market.



## 1999/2000 CPRC Executive Board



### **New Chairman**

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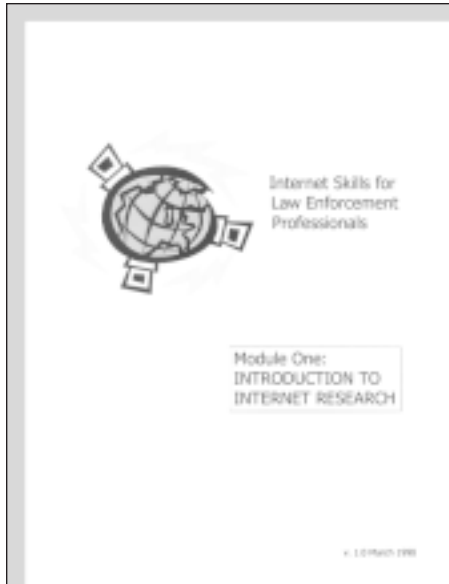
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## CPRC's TOP TEN IN THE FIRST TEN

(in alphabetical order)



### Basic Internet Skills and IRC Courses

The growing demand for training in areas of technology coupled with the growing financial and time stress of providing such training led CPRC to explore distance learning initiatives in this area. Two topics of high demand were chosen. The Basic Internet Searching Skills course and the Internet Relay Chat (IRC) course were developed with the support and involvement of a number of agencies and corporations including the CPRC.

The Basic Internet Searching Skills course provides the student with an understanding of a variety of searching methods and the advanced use of search engines to enable them to locate open source information on the Internet. The course, run through the Canadian Police College (CPC) for a limited time to gauge the level of adoption by the police community, exceeded expectations and has now become the CPC's first distance learning program. The IRC course familiarizes investigators with the capabilities of IRC software from both the casual user and the investigators perspective. It is discussed elsewhere in this report.



### Blast Suppressant Foam Containment System

Starting with development in the early 1990's with derivatives of fire fighting foam and nozzle technologies, and evolving in partnership with the Department of National Defence and private sector industries, the current *Blast Guard* system uses a variety of leading edge components to mitigate and neutralize explosive ordnance devices. CPRC funding was instrumental in this project. Licensed to a Canadian-based multinational company, Irvin Aerospace Canada Limited (Phone: 905-871-6510), the system is in use worldwide.



### Bomb Suit

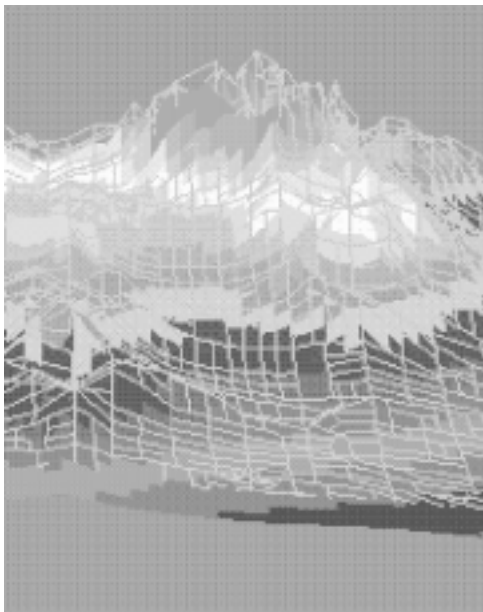
Stemming from research conducted by the RCMP's Explosive Disposal and Technology Section, and with the assistance of CPRC funding, the bomb suit and helmet have been commercialized, successfully marketed and are in use around the world. The current family of explosive ordnance disposal suits are marketed by a Canadian firm, MED-ENG systems (Phone: 613-739-9646).

The suits offer comfort for bomb disposal and de-mining operations, and a very high degree of balanced and integrated protection from the four traditional threats associated with blast: overpressure, fragmentation, impact and heat.



### **Forensic Entomology**

In 1993, the CPRC was presented with a proposal for research in the emerging field of Forensic Entomology. Dr. Gail Anderson of Simon Fraser University in Burnaby, British Columbia was preparing to investigate insect activity on the bodies of pigs placed on or below ground. Pig carcasses were used as they most closely approximate the size of the human torso. The goal was to establish the insect succession on the carcasses and thereby determine the time of death. Several projects were conducted in British Columbia and considerable interest was aroused in other areas of the country. The goal presently is to establish a database of insect succession in each of the different biogeoclimatic zones of Canada. To this end, studies are being undertaken at various Canadian universities. This database will be of considerable assistance to homicide investigators. Already, Dr. Anderson's research has been instrumental in the successful conclusion of a number of cases across Canada. A current project, described elsewhere in this report, involves a study of decomposition in the marine environment.



### **Geographic Profiling**

A Vancouver police officer, Kim Rossmo, invented a process called 'Geographic Profiling' that is used in the criminal investigation of serial killers. With the assistance of the CPRC partner, the National Research Council, the investigational aide was transferred to the Canadian company Environmental Criminology Research Incorporated (ECRI). The system helps investigators geographically focus on the neighbourhood where it is most probable the serial killer might live. ECRI systems are now being used as part of the set of tools for investigating serial murders in Canada, the United Kingdom and the United States.



### **InvestigAide**

The first known police expert system was developed at Canada's National Research Council. This system, 'InvestigAide', focuses on Break and Enters, profiling and identifying the professional B&E criminal. The system is in use in Canada, the United States and the United Kingdom and all users have realized B&E reductions.



### Radar Health Study

In the early 90's, there was a perception that the police had a much higher incidence of testicular cancer than the general population and that this may be caused by police radar speed equipment. CPRC conducted the world's first epidemiological study on the health effects of police radar. The five largest Canadian police agencies (over 55,000) were surveyed. The study concluded that the testicular cancer rate for police was no different from that of the general population; however indications were found that police personnel have an enhanced risk of skin cancer.



### TEC Fingerprint Dye

Exposure of exhibits to the fumes from Super Glue is a common technique for recovering fingerprints on plastic, metal and glass. Often a dye is used to further reveal the fingerprints. TEC is a fluorescent dye that will glow red when viewed under ultraviolet light using orange goggles over the eyes. The dye was developed through joint funding by the CPRC and the NRC. Since its introduction into the forensic community, it has proven to be a valuable tool in the recovery of fingerprints from human skin.



**THE WARTHOG**



**PREVENT HIGH SPEED PURSUITS FROM BEGINNING**

When law enforcement officers find parked stolen vehicles or vehicles used in a crime, place the WARTHOG under a tire of the vehicle. When the suspect gets in the vehicle and drives off (with officers in surveillance) the result is a flat tire within 1 to 3 blocks, making apprehension possible without a dangerous high speed pursuit.


- Device is virtually impossible to see when in place under a tire.
- Compact & light weight (3 1/2" x 1 1/4" x 1/2", weighs a few ounces).
- Can be carried in officer's vest pocket.
- Low cost.
- Prevents high speed pursuits from even beginning.
- Proven successful by a number of police services in North America.

**IMPACT POLICE TECHNOLOGIES, INC.**  
 21 LEDDY AVE., ST. ALBERT, ALBERTA, CANADA T8N 1T2  
 TEL (403) 458-7944 • FAX (403) 458-7944

### Warthog

Some of the best ideas come directly from the police - the 'Warthog' was developed in the Edmonton Police Service by Sgt. Dan Jones. This small pocket-sized device can stop a high speed car chase before it begins. It has two spikes that will flatten a vehicle's tire when it is driven. Projects such as this show that low tech ideas can have a major impact for police organizations. CPRC provided the funding for initial prototypes of the device.

**9mm/.38 Spl. .40 Ammunition Study**



9mm  
 .38 S&W  
 .40 S&W

### 9mm/.38 Spl. .40 Ammunition Study

The trend in North American law enforcement agencies away from the use of traditional revolver sidearms to semi-automatic pistols in the 1990's presented an urgent need to also convert service issue ammunition. However, comparative data was not available. Firearms examiners in the RCMP's Forensic Laboratories developed a testing methodology to gather terminal ballistic data. Their protocol was based on wound ballistic research pioneered by Dr. Martin Fackler and was designed to simulate actual field conditions of the effects of projectiles on body soft tissues. This protocol has become the standard testing procedure in the objective selection and procurement of service issue ammunition. Further details may be found in CPRC's technical report TR-01-95.



## **CATEGORY A**

### **HEALTH AND SAFETY - PROTECTING THE POLICE IN HAZARDOUS SITUATIONS**

#### **Blast Suppressant Foam Containment System – Active**



**PROJECT MANAGER:**

Glenn Carroll, CPRC (613) 998-6340  
John Bureaux, Canadian Bomb Data Centre  
(613) 993-7880

**REPORT:**

TM-06-95R “Blast Suppression Foam”

Continued development of foam delivery, foam formulations and containment apparatus is ongoing. Commercialization has also been completed and the Blast Guard system as well as specific components are available to first responders through Irvin Aerospace Canada Limited (Phone: 905-871-6510)

#### **Blunt Trauma Vest – Active**



**PROJECT MANAGER:**

John Arnold, CPRC (613) 993-3737

With initial support from NRC’s IRAP program, a Montreal company Mawashi have developed a ‘blunt trauma’ vest called the Promax. They presently have four versions: Level A – blunt trauma, level B – blunt trauma and ballistic resistant, level C – blunt trauma and stab resistant and level D blunt trauma, ballistic and stab resistant. CPRC was provided with two versions which were exhibited in the UK at PSDB 2000 earlier this year. Following the exhibition the vests were provided to PSDB for evaluation against their internationally renowned standards.

For further information contact Mr. A. Bujold at Mawashi  
(450) 682-4441.

#### **Development of a Canadian Soft Body Armour Standard and Development of a Multi-Hit Test Procedure – Active**



**PROJECT MANAGER:**

Julie Graham, CPRC (613) 990-9533  
Tony Bosik, Bosik Consultants Limited (613) 998-3303

The Canadian General Standards Board (CGSB) is continuing to coordinate the drafting of a Canadian standard for daily personal use body armour.

An instrument has been built to perform a reproducible multi-shot test designed to represent shots from a machine gun. The



instrument is designed to fire a series of three shots which strike the target in close proximity. The rate of fire is variable, each barrel is laser aimed and the speed of each round is recorded. It is intended that a database of results from the instrument will be created and used to develop a test procedure relating to the standard.

For additional information regarding the multi-hit test, call Bosik Consultants.

### Drug Section Safety Cabinet – Active



#### PROJECT MANAGER:

Glenn Carroll, CPRC (613) 998-6341

Drug investigators may suffer inadvertent exposure to street drugs through operational requirements. A movable self-contained safety cabinet has been designed to remove particulate materials and solvent vapours. In addition to providing a margin of safety for the investigator, it is designed to prevent contamination of exhibits. A custom-fabricated unit has undergone field-trials in an RCMP operational drug section. Evaluation has been completed and an evaluation report is in preparation.

### Duty Belt Suspenders Evaluation – Active



#### PROJECT MANAGER:

John Arnold, CPRC (613) 993-3737

#### REPORT:

TM-01-2000 Evaluation of the “Millennium Backsaver” suspender.

This year CPRC worked with an Ottawa company, Millennium Police Supply, who had developed a police duty belt suspender. Initial feedback indicated that the ‘Millennium Backsaver’ suspender did offer some of the police officers comfort as far as the weight of their duty belt was concerned. Over twenty suspender sets were sent out for operational evaluation. The above report details the results of the evaluation.

For further information contact Mr. M. Scharfe of Millennium Police Supply at (613) 795-2637.



### **Nylon Duty Belt Evaluation – Concluded**

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533  
Andrew Wardroper, RCMP Materiel Management (613) 993-3256

REPORT: TM-03-2000: Nylon Duty Belt Field Trials

Three different types of nylon duty belt systems (Bianchi, Gould & Goodrich, and Michaels of Oregon) were evaluated, and compared to the leather duty belt system. A variety of criteria including comfort, durability, effectiveness and compatibility were addressed.

For further information, call Andrew Wardroper.

### **Remote Wireless Explosives Disruptor Initiator – Concluded**

PROJECT MANAGER: Glenn Carroll, CPRC (613) 998-6341  
Derick Ivany, Canadian Bomb Data Centre (613) 993-7880

The RCMP 'E' Division Explosive Disposal Unit have developed, in conjunction with the Canadian Bomb Data Centre (CBDC), a small light weight transmitter/receiver system that can initiate explosive charges and fire disruptors from a remote command post without the use of a ground line. Current technology requires use of such a ground line, presenting a physical safety hazard and tactical disadvantage.

No further activity has occurred with this project since the last report. The project has been concluded for logistical and personnel reasons.

### **Review of OC Spray – Active**

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533

There is an ongoing need to monitor research and developments in this area. CPRC continues to seek out relevant material pertaining to this topic.

### **TASER Technology - Less Lethal Technology – Active**

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533  
Darren Laur, Victoria Police Service, (250) 995-7654  
Peter Sherstan, RCMP (780) 926-3013

REPORT: TR-01-2000 TASER Technology Research Paper

Beginning in December 1998, the Victoria Police service undertook a six-month trial of the TASER Technology. A comprehensive report was prepared. Currently, further evaluation of this technology is being undertaken by the RCMP.

For additional information, call Darren Laur or Peter Sherstan.



## **CATEGORY B**

### **OPERATIONAL EFFECTIVENESS - FIGHTING CRIME, GATHERING INFORMATION, INTELLIGENCE AND EVIDENCE**

#### **Arson Linkage – Active**

PROJECT MANAGER: John Arnold, CPRC (613) 993-3737

Mr. R. McKay, of Forensic Behavioral Analysis, approached the CPRC partner NRC to see if there was any interest in supporting the research and development of a serial arson linkage software program. Recent research into the behaviours of serial arsonists indicates that the linking of their crimes can be achieved in much the same manner as ViCLAS does for serial rapists and killers.

As a result, both the CPRC area of NRC and the Fire Research section of the Institute for Research in Construction agreed to host a workshop to discuss the possibility of a research project.

#### **Category ‘A’ Response Kit – Active**

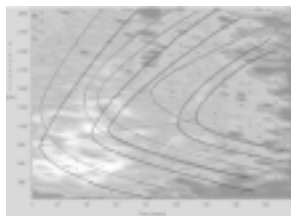
PROJECT MANAGER: Glenn Carroll, CPRC (613) 998-6341  
Steve McDonagh, RCMP Explosives Disposal & Technology Section (613) 993-7880

The RCMP Explosive Disposal & Technology Section is updating its major threat explosive ordnance device (EOD) kit to contain newer, more effective operational tools for bomb technicians. The objective is to improve visual inspection, electronic and nuclear/biological/chemical diagnostic equipment by:

- including newer and more effective equipment
- reducing size and weight
- using a suitable container
- incorporating an aide memoire procedures manual for “Render-Safe-Procedure” (RSP for Category ‘A’ scenarios

On completion of this development, a program to update all police agencies across Canada is envisioned by way of the Canadian Police College Explosive Disposal Training Section.

#### **Cockpit Voice Recorder Explosion Analysis Technique – Active**



PROJECT MANAGER:  
Barry Gaudette, CPRC (613) 998-6340  
Howard Posluns Transportation Development Centre (514) 283-0034  
Steve Hall, Structural Disaster Diagnostics Canada Ltd., (613) 837-1161

This project, funded by Transport Canada and the US FAA, is to further develop, computerize and evaluate a Cockpit Voice Recorder Explosion Analysis technique. The technique has been shown to be capable of discriminating between in-flight break-ups caused by structural failures versus those caused by an explosion. It can also determine the location of the explosion within 1 metre. A rapid and reliable method of determining the nature and location of an on-board event will allow for a better and more focussed response from the air safety investigation and law enforcement agencies. Several representatives of air safety investigation agencies have been trained on the use of the technique and a validation test has commenced. To date, the contractor has been unable to successfully demonstrate the application of the technique using recordings from past incidents. The evaluation is expected to be completed and a final report produced in the coming months.





### **“COVERUP” – Active**



**PROJECT MANAGER:**

Barry Gaudette, CPRC (613) 998-6340  
Dr. Brian Yamashita and Kevin Miller, RCMP Forensic Identification Research Services (613) 998-6190

This eight sided clear plastic cover 11 1/2" by 3 1/4" high is used by the initial officer on the scene to cover evidence (such as tire prints, footwear prints, blood, fibres, etc.) in order to prevent destruction or contamination of evidence. It can be secured in place by any of three methods: adhesive foam pads, nails placed through nail holes on its edge, or through use of four jagged slots along the edge which can be fastened to vegetation, etc.

Several of these covers have been distributed across Canada and their use at crime scenes is presently being evaluated by Forensic and General Investigation members. This project is still underway; initial comments received to date have generally been positive.

Several of these covers have been distributed across Canada and their use at crime scenes is presently being evaluated by Forensic and General Investigation members. This project is still underway; initial comments received to date have generally been positive.

### **Crime Scene DNA Collection Kit – Active**

**PROJECT MANAGER:** Glenn Carroll, CPRC (613) 998-6341  
Dr. Ron Fourney, National DNA Databank (613) 993-5761

Negotiations are underway to develop a crime scene DNA collection kit in collaboration with the RCMP Forensic Laboratory Services - Biology, the National DNA Databank and a private sector supplier.

### **Decomposition in the Marine Environment – Active**



**PROJECT MANAGER:**

Julie Graham, CPRC, (613) 990-9533  
Dr. Gail Anderson, (604) 291-3589

In cooperation with the RCMP, the Vancouver Public Aquarium and the Canadian Coast Guard, Dr. Gail Anderson is studying the arthropod succession on pig carcasses placed in the ocean. The objective is to develop a system to determine time of death for bodies disposed of in a marine environment.

For additional information call Dr. Anderson.

### **Drug Enforcement Technology Evaluation – Active**

**PROJECT MANAGER:** Julie Graham, CPRC (613) 990-9533

There is a continuing need for the monitoring and evaluation of new technologies which have potential application to the operational needs of drug enforcement units. Promising or potentially relevant material will continue to be forwarded to Drug Enforcement Branch for their review, comment and possible action.



### **Evaluation of the Effectiveness of Helicopter Patrols, London, Ontario – Concluded**



**PROJECT MANAGER:**

John Arnold, CPRC (613) 993-3737

Bruce Nelson, London Police Service (519) 661-5998

The London Police Service approached the CPRC to assist in this project, the objective of which is to determine whether police helicopter patrols can reduce the incidence of certain types of crime as well as reduce the incidence of some calls for service. The evaluation will express helicopter costs, reduction of crime and calls for service in dollars. A cost benefit analysis focused on tangible and direct effects will be circulated to the police community on completion. This report is expected in the Fall 2000.

### **Extraction of DNA from Teeth – Active**

**PROJECT MANAGER:** Julie Graham, CPRC (613) 990-9533

Dr. David Sweet, Bureau of Legal Dentistry (604) 822-8822

Dr. David Sweet of the Bureau of Legal Dentistry, University of British Columbia, is currently studying the potential to extract forensic DNA evidence from various areas of human teeth. The project will investigate different areas of teeth (crowns and roots) and various classes of teeth (incisors, premolars and molars) to determine whether there are significant differences in the concentration of DNA in the regions and classes of teeth.

For additional information, contact Dr. Sweet.

### **Fingerprint Acquisition Device – Concluded**

**PROJECT MANAGER:** John Arnold, CPRC (613) 993-3737

Patrick Moore, CPF Systems (613) 737-0023

The objective is to develop an inexpensive device that can replace the pad and ink method used by police for capturing rolled fingerprints. The project started in August 1998, with the financial support of NRC-IRAP, brokered by CPRC. A special interest group from NRC, RCMP and Ottawa Carleton Regional Police was formed to assist in the project.

Although a prototype was produced, the company has decided not to pursue its further development due to technical difficulties.

### **Fingerprint Research – Active**



**PROJECT MANAGER:**

Julie Graham, CPRC (613) 990-9533

Dr. Della Wilkinson, RCMP Forensic Identification Research Services (613) 998-9718

Dr. Wilkinson continues to research the detection and visualization of fingerprints on human skin. Her work is a joint venture of the Royal Canadian Mounted Police and the National Research Council Canada and involves collaborative research with such agencies as the Ottawa-Carleton Regional Police Service, the Ontario Provincial Police and the Sûreté de Québec in Montreal.

She is involved in a study dealing with the collection of DNA evidence from crime scene fingerprints and continues to evaluate forensic light sources.

Dr. Wilkinson provides instruction at the Canadian Police College and is involved with the International Fingerprint Research Group which met in Ottawa in May 1999.

For further information, call Dr. Wilkinson.



### **Forensic Analysis and Comparison of Ink Jet Printers – Active**

PROJECT MANAGER: John Evans, CPRC (780) 421-2853  
Dr. John Oliver, ARC (780) 450-5157

The rapid development of non-impact printing technology has given rise to inexpensive printers with amazingly high quality print quality. With ready access to this technology by criminals, businesses and police are facing a serious challenge to suppress fraud and counterfeiting. The Alberta Research Council (ARC) was identified as not only possessing a world class papermaking laboratory, but having leading experts in non-impact printing technology.

Dr. John Oliver of the ARC has developed processes for forensic examination of documents and methodologies to identify ink-jet printer types from their printing pattern on a document. The project is continuing to examine the potential to develop a Digital Document Forensic Course, a Digital Document Database and Protocols for Digital Printing Document Examination.

### **Forensic Entomology Across Canada – Active**



PROJECT MANAGER:  
Julie Graham, CPRC (613) 990-9533  
Dr. Gail Anderson, Simon Fraser University (604) 291-3589

REPORT:  
Training video available. A 23 minute video, produced by the Audio-Visual Unit of “E” Division Training, deals with the collection of entomological evidence.

TR-10-98 “Freshwater Invertebrate Succession and Decompositional Studies on Carrion in British Columbia”

TR-09-97 “Aquatic Forensics - Determination of Time Since Submergence Using Aquatic Invertebrates”

TR-02-96 “Forensic Entomology - Determining Time of Death in Buried Homicide Victims Using Insect Succession”

TR-03-96 “Forensic Entomology - The Use of Insects in Death Investigations To Determine Elapsed Time Since Death In Interior and Northern British Columbia Regions”

TR-05-95 “Forensic Entomology - The Use of Insects in Death Investigations to Determine Elapsed time since Death”

Dr. Gail Anderson, of Simon Fraser University, Burnaby, B.C., continues to gather data relative to insect succession on carcasses. This provides information regarding time of death in homicide cases. The goal is a countrywide database which will cover all of the biogeoclimatic zones within Canada. A number of studies have been completed in British Columbia and projects are underway in Manitoba, Saskatchewan and Alberta.

For additional information, call Dr. Gail Anderson.

### **Geographic Profiling – Concluded**

PROJECT MANAGER: John Arnold, CPRC (613) 993-3737  
Barry Dalziel, ECRI (604) 718-2060

As reported last year, Environmental Criminology Research Incorporated (ECRI) built ‘Rigel’, a geographic profiling system developed from the work of Inspector Kim Rossmo of the Vancouver Police Department. This past year, the NRC IRAP program offered pre-commercialization support to the Rigel project.

Rigel is now written in the Java language making it platform independent and enabling the system to be delivered over the Internet.

‘Rigel’ is in use by many Canadian police organizations as well as the National Crime Faculty, Brams Hill, United Kingdom. ECRI attended a number of international police conferences and exhibitions, including the NCIS conference in Edinburgh.

For information on ‘Rigel’, contact Barry Dalziel at (604) 718-2060, or E-mail at [barryd@ecricanada.com](mailto:barryd@ecricanada.com)



### International Cybercrime Training Standards and Courseware – Active

PROJECT MANAGER: John Evans, CPRC (780) 421-2853  
Jamie Kerr, CPRC (613) 993-2073

Several years ago, the CPRC identified the impending need for a massive increase in the amount of cybercrime training given to police. Recognizing the burden this would place upon already overtaxed training facilities and budgets, the CPRC began exploring opportunities to:

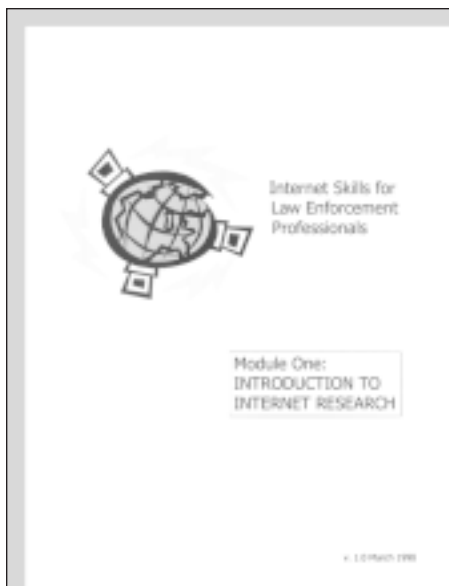
- share information on program development to avoid wasteful duplication.
- coordinate program development with other countries to ensure standards and consistency.
- explore alternative methods for training delivery to allow cost-efficiency and scalability.
- enhance international cooperation at all levels in relation to cybercrime due to its borderless nature.

One of the main avenues of this project has been the partnering of CPRC staff with the U.S. Department of Justice's National Cybercrime Training Partnership program which was created for and shares the same vision and mandate. Through this partnership, we have facilitated the involvement of several Canadian agencies and specialists with their U.S. counterparts. CPRC staff currently co-chair the International Portfolio of this organization, with the aim of involving additional countries.

A series of courses have been identified for development. Each course is broken down, by teams of subject matter experts, into all of the required skill sets needed for that course or module. A basic courseware package is then assembled. The courseware is generally designed to allow extensibility and modification to suit the individual needs of various regions and agencies.

To date, several courseware products have either been released or are in the final stages of development. These include 3 video segments on electronic crime scene and awareness, Intermediate Forensic Analysis of a computer, and a course on Computer Crime Prosecution.

### Internet Relay Chat (IRC) - Delivering software training over the Internet – Active



PROJECT MANAGER: Jamie Kerr, CPRC (613) 993-2073

This test course was developed and delivered with the support and involvement of the following agencies and corporations:

- the Northern Ontario Police Academy of Advanced Training, Sudbury,
- the British Columbia Institute of Technology, Vancouver,
- the Canadian Centre for Information Technology Security, Vancouver,
- the National Research Centre, Ottawa,
- the Canadian Police Research Centre, Ottawa
- D.M. Toddington and Company, White Rock, British Columbia

The course was designed by D.M. Toddington and Company to familiarize investigators with the capabilities of IRC software from both the casual user and the investigators perspective. It allowed the candidates to access the course from any location and work on-line with the instructors and other candidates. This course was intended to test the viability of offering this and other similar introductory courses to law enforcement investigators via the Internet. This specific test course was designed so that it would be valuable, interesting, enjoyable and cost effective for candidates, while providing them with both the familiarity and knowledge necessary to understand the complexities of IRC investigations. The test course was evalu-

ated by candidates from across Canada and the United States. The group was composed of both novice and expert users of Internet Relay Chat software.

The majority of candidates considered the test course both worthwhile and enjoyable. Although the evaluation is still ongoing, it appears this method of delivery is effective and efficient. Efforts are now ongoing to improve the original test course and re-evaluate its delivery for efficiency, effectiveness and costs.



### **Matching Feet to Footwear – Active**



**PROJECT MANAGER:**

Julie Graham, CPRC (613) 990-9533  
Robert Kennedy, RCMP Forensic Identification Research Services (613) 990-9086

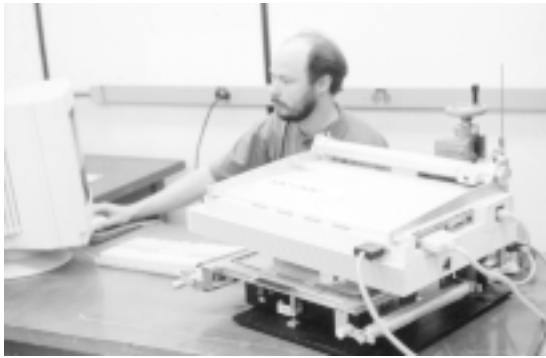
**REPORT:**

TR-02-2000 Update on Footprint Research  
(available Sept. 2000)

In order to scientifically support the theory of identifying feet to footwear, data continues to be collected and statistically analysed. The necessary number of prints will be collected by March 2001 and the analyses will be completed by March 2002.

For additional information, contact Bob Kennedy.

### **Micro-inspection – Active**



**PROJECT MANAGER:**

John Arnold, CPRC (613) 993-3737

**REPORT:**

TM-20-95 “D-Sight Micro-inspection Technology”  
TM-21-95 “Micro-inspection Technology”  
TM-05-98 “Edge of Light Operational Assessment”

“Edge of Light” (EOL) was invented at the Institute of Aerospace Research (IAR), NRC. EOL technology is useful in visually inspecting surfaces for small features (micro-metre) that might be of interest to the police identification officer. Initial trials have indicated some success with counterfeit money, passport forgery, altered credit cards, document and hand-writing examination and oil painting authentication.

support forgery, altered credit cards, document and hand-writing examination and oil painting authentication.

This year a laboratory system was built with a high quality optics system and computer driven axis to assess and compile high resolution images.

NRC has agreed to work with the Forensic Science Service in the United Kingdom. NRC also sought Canadian and international licensees for EOL for forensic applications.

### **Microwave Imaging System for Law Enforcement – Concluded**

**PROJECT MANAGER:** John Arnold, CPRC (613) 993-3737  
Kal Abdollal, Powertec (604) 590-7496

**REPORT:** TM-02-2000: Needs assessment for Microwave Imaging.

This project was proposed by the Coordinated Law Enforcement Unit (CLEU) of British Columbia.

The technology is being used by BC Hydro to inspect the potential thermal breakdown of ceramic transformer elements. The company has also carried out a feasibility study for BC Forestry where the technology was used to identify underground forest fires. The technology has the potential to be used in a variety of law enforcement applications, e.g. looking through non-metallic walls and locating buried avalanche victims.

A marketing/economic feasibility study was completed this fiscal year. As a result of the findings, the company and CPRC decided not to continue this project. The project is concluded.



### **PAN Disrupter – Active**

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533  
Steve Ethier, Canadian Bomb Data Centre (613) 993-7880

Several years ago, the evaluation of a new PAN disrupter, developed by Sandia National Laboratories was begun. Due to changing priorities, the evaluation was not completed as scheduled. A report is expected by September 2000.

### **Pocket Interview Recorder And Transcriber (PIRAT) – Active**

PROJECT MANAGER: John Evans - CPRC (780) 421-2853

PIRAT is a modification of a commercially available digital pocket 'tape' recorder. All recording is stored digitally on a chip rather than the traditional magnetic tape. It is small enough to be carried in a pocket making it useful for recording interviews and statements in the field or office. The unit also uses voice recognition software to produce a text file of the conversation. Both the audio recording and text file can be downloaded into a computer for storage or captured into a report or word processor.

PIRAT is a modification of this commercial version to enable the recording of two voices, automatically distinguishing them from each other and separating the two conversations in the text output, thereby producing a more readable and useable transcript of the interview.

### **Provincial Applicant Tracking System (PATS) – Active**

PROJECT MANAGER: John Evans - CPRC (780) 421-2853

The municipal police agencies in Alberta have been involved in standardizing their hiring requirements. Part of this process required the ability to share testing and screening information on candidates in order to avoid duplication in manpower and costs.

A central database has been developed with a secure communication link between the testing centres. This will allow immediate access to a candidate's testing history and permit testing at one location to be accepted at another location.

The database is in final beta testing at this time.

### **Remote Opening Kit – Active**

PROJECT MANAGER: Glenn Carroll, CPRC (613) 998-6341  
Gord Scott, RCMP Explosives Disposal & Technology Section (613) 993-7880

Bomb disposal technicians routinely use a 'hook and line' technique to extricate suspicious packages from buildings and vehicles, particularly where a robot is not available or accessible. Various specialty 'gadgets' have been developed in the past to manoeuvre around corners, through doorways, etc. An on-going problem has been to open doors and drawers in buildings and vehicles. Since a human is most at risk when close to the device, the strategy is to reduce the bomb disposal technician's time in close proximity. Currently, kits are available with a variety of specialty component parts, but none have door/drawer openers. A suite of such devices is being developed.

### **Removable Equipment Package (RS3P) (Restricted) – Active**

PROJECT MANAGER: Glenn Carroll, CPRC (613) 998-6341  
Dave Glover, RCMP Technical Operations (613) 993-7880

A modular system is being developed to allow portability and rapid deployment of equipment.



### **Robbery Database – Active**

PROJECT MANAGER: John Evans - CPRC (780) 421-2853  
Robin Plomp - Edmonton Police Service (780) 421-3415

Robbery units in Alberta identified the need for a small and easy to use database to maintain information on case files. The Edmonton Police Service Robbery Unit was already using a relatively simple database written by one of its members. This database maintained basic case management information as well as the M.O. of various robberies. It was found to be very useful in finding or cross-referencing information on files assigned to different detectives. There was a desire by other agencies in the province to increase the use of such a database in more robbery units for both in-house and inter-agency information sharing. The CPRC was asked to assist in producing a refined database for this purpose.

A new database is currently being designed and written in conjunction with subject matter expertise from the Edmonton Police Service Robbery Unit and programming expertise from the Northern Alberta Institute of Technology. The database is scheduled for completion by the end of August 2000.

### **Secure Collaborative Messaging System – Active**

PROJECT MANAGER: John Evans - CPRC (780) 421-2853

The CPRC has established a server with software to enable collaborative communication between groups. The system is secure for reasonably sensitive traffic via the Internet. The server is currently serving several police-oriented groups and requests for the use by others will be considered upon request.

### **Speech Recognition – Concluded**

PROJECT MANAGER: John Arnold, CPRC (613) 993-3737  
Oleg Feldgajer, International Neural Machine (519) 746-3890 Ext. 24.

This project was proposed by Waterloo Regional Police Service which presently has their police officers phone in their police reports to a recording system. Civilian operators transcribe the reports which are then proofread and keyed into their computer records system. The objective of this project is to enable direct input of the telephoned report into the computer.

International Neural Machine of Waterloo, supported by NRC/IRAP, have developed a system to accomplish this. It is now available to the police market. For further information contact Mr. Oleg Feldgajer, International Neural Machine at (519) 746-3890 Ext. 24.

### **Use of Force Training Simulators Evaluation – Active**

PROJECT MANAGER: Glenn Carroll, CPRC (613) 998-6341

A working group has been formed consisting of firearms trainers from major law enforcement training sites in Canada working in collaboration with the Defence and Civil Institute of Environmental Medicine.

This year the working group met to address two main issues:

- the collection and collation of data and features of commercially available systems
- the pedagogical basis for simulator training.

An open house was hosted by the Ontario Police College with four equipment manufacturers in attendance to provide hands-on demonstration of their systems. A survey questionnaire of available features is in preparation.



## **Video Weapon Aiming System & Target Designator for Neutrex Disrupter – Concluded**

PROJECT MANAGER: Glenn Carroll, CPRC (613) 998-6341  
Gord Scott, RCMP Explosives Disposal & Technology Section (613) 993-7880

Under some lighting conditions, aiming of robot-mounted water-jet disruptors is difficult. The objective of is to develop an aiming system using a high intensity laser and a switchable electronic filter placed in line with the video camera feed. When turned on, the electronic filter can filter out all visible light leaving only the image of the laser dot.

A recently completed video cross hair project, funded by CPRC, generates cross hairs on the video image. It does not use laser in its operation. It works well but needs further refinement in order to function optimally. Part of this project is the development of an internal boresight-mounted laser to accurately determine the centre of the Neutrex barrel for crosshair alignment and overlay it with the electronic image.





## **CATEGORY C**

### **PROTECTING THE PUBLIC - TRAFFIC, CUSTODY, CRIME PREVENTION**

#### **Cell Design – Active**

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533  
Herman Doornbos, RCMP (613) 993-1638

REPORT: TR-03-2000 Proposals For Modification and Design Changes to Jail/Holding Cells:  
Psychological Impact on Aggressive and Self Destructive Behaviour

The first phase of this project was aimed at determining what psychological effects prisoners (including those of different ethnic groups) experience during their time in confinement. The study focused on short term incarceration.

The second phase of the project involves modification of selected holding cells in order to reduce aggressive behaviour and suicide occurrences.

For additional information, contact Herman Doornbos.

#### **Needle Disintegration System – Active**

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533  
Michael Carnes, Medical Processing Services Inc. (613) 225-5566

The Needle-Ease@3500 Needle Disintegration System™ is a battery operated portable unit, weighing approximately three pounds. When a syringe, with the needle side down, is inserted in an aperture on the top of the unit, the needle is incinerated and reduced to ash. This eliminates the possibility of needlestick accidents.

CPRC purchased three of these units and placed them in various areas for evaluation and comment.

For additional information, please contact Michael Carnes.

#### **ResQ Disc Evaluation – Concluded**

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533

REPORT: TM-04-2000: Evaluation of the ResQ Disc

The ResQ Disc was designed for rescue purposes. It is a throwable, buoyant frisbee-like device with a line attached. The device was developed in the United States and is increasingly widely used by police and fire departments.

CPRC purchased a number of the discs for evaluation by police and search and rescue personnel across Canada.

#### **Security Upgrade of Windows – Active**

PROJECT MANAGER: Glenn Carroll, CPRC (613) 998-6341  
Larry Blanchette, RCMP Engineering Branch (613) 991-4989

Evaluation of current commercially available glazing materials, including security films, against simulated sledge hammer attack has been proposed. Staff reductions have precluded progress on this evaluation, however consideration is being given to proceeding by way of outsourced testing or collaboration with a private sector partner. If this occurs the project will be reactivated.



## TECHNICAL REPORTS and MEMORANDUMS

This section lists all the “*Technical Reports*” and “*Technical Memorandums*” that the CPRC has published since 1992. A “*Technical Report*” is defined as a document containing scientific and technical information considered important, complete and a lasting contribution to existing knowledge. A “*Technical Memorandum*” is defined as a document containing scientific and technical information less broad in scope but nevertheless of importance as a contribution to existing knowledge.

### 2000 TECHNICAL REPORTS

- TR-01-2000 TASER Technology Research Paper
- TR-02-2000 Update on Footprint Research
- TR-03-2000 Proposals for Modification and Design Changes to Jail/holding Cells: Psychological Impact on Aggressive and Self Destructive Behaviour

### 2000 TECHNICAL MEMORANDA

- TM-01-2000 Evaluation of the Millennium Backsaver Suspender
- TM-02-2000 Needs Assessment for Microwave Imaging
- TM-03-2000 Nylon Duty Belt Field Trials
- TM-04-2000 Evaluation of the ResQ Disc
- TM-05-2000 Computer Security

### PREVIOUS TECHNICAL REPORTS

#### 1999

- TR-01-99 “Low Back Pain Among RCMP Officers: An Investigation Into Vehicles, Duty Belts and Boots”
- TR-02-99 “Back Pain in a Large Canadian Police Force”

#### 1998

- TR-01-98E “Vision Standards in the RCMP: Are They Reasonable and Fair?”
- TR-01-98F «Normes visuelles de la GRC : Sont-elles raisonnables et équitables?»
- TR-02-98E “To Wear or Not To Wear: A Survey on Current Contact Lens Use in the Royal Canadian Mounted Police”
- TR-02-98F «Sondage sur le port des verres de contact à la Gendarmerie royale du Canada (GRC)»
- TR-03-98 “Lead Shot Penetration in 10% Ordnance Gelatin”
- TR-04-98 “Physical Ability, Fitness and Police Work”
- TR-05-98E “Violent Incidents”
- TR-05-98F «Incidents Violents»
- TR-06-98 “Ontario Provincial Police Holster Committee Report”
- TR-07-98 “Computer Assisted 2D and 3D Comparison of Bite Mark Evidence and Tooth Exemplars”
- TR-08-98 “Incidence of Human Bite Marks in a Selected Adult Population”
- TR-09-98 “Multicultural Communication Awareness for Police”
- TR-10-98 “Freshwater Invertebrate Succession and Decompositional Studies on Carrion in British Columbia”
- TR-11-98 “Penetration of Exterior House Walls by Modern Police Ammunition”



### 1997

- TR-01-97 "Evaluation of Gun Lubricant Operation At Low Temperatures"  
TR-02-97E "Risk to Police Officers From Biohazards Encountered in Police Work"  
TR-02-97F «Les risques biologiques du métier de policier»  
TR-03-97E "Physical Ability, Fitness and Police Work"  
TR-03-97F «Aptitudes et condition physiques des policiers»  
TR-04-97E "Occupational Medicine for Policing"  
TR-04-97F «La médecine du travail dans le domaine policier»  
TR-05-97E "Assessing Cardiac Risks in Police Officers"  
TR-05-97F «Évaluation des risques de cardiopathie chez les policiers»  
TR-06-97E "Occupational Health in Police Work: A Canadian Perspective"  
TR-06-97F «La médecine du travail en milieu policier une perspective canadienne»  
TR-07-97E "Respiratory Symptoms Among Forensic Identification Workers"  
TR-07-97F «Les symptômes respiratoires chez les techniciens de l'identité judiciaire»  
TR-08-97 "Evaluation of Water Soluble Evidence Collection Adhesive Tape"  
TR-09-97 "Aquatic Forensics - Determination of Time Since Submergence Using Aquatic Invertebrates"  
TR-10-97 "Results from the FBI Collaboration on the Detection of Fingerprints from Human Skin"  
TR-11-97 "Investigaide B&E, A Break and Enter Expert System"  
TR-12-97 "C.L.E.I.M.S. Canadian Law Enforcement Information Management System, A Major Case Management System"  
TR-13-97 "Radar Health and Safety Study - Executive Summary of TR-14-97"  
TR-14-97 "Radar Health and Safety Study - Complete Epidemiology Report"

### 1996

- TR-01-96 "Directed Studies: A Focused Approach to Collision Investigation"  
TR-02-96 "Forensic Entomology - Determining Time of Death in Buried Homicide Victims Using Insect Succession"  
TR-03-96 "Forensic Entomology - The Use of Insects in Death Investigations To Determine Elapsed Time Since Death In Interior and Northern British Columbia Regions"  
TR-04-96 "Advanced Scientific Research For A New Europium Based Fluorescent Dye"  
TR-05-96 "Advanced Scientific Research - Innovations in Cyanoacrylate Stain Technology"  
TR-06-96R "Coarse Focus Soft Shaped Charge Disrupter - 1996 Update" - Restricted

### 1995

- TR-01-95 "Comparative Performance of 9mm Parabellum, .38 Special and .40 Smith and Wesson Ammunition in Ballistic Gelatin"  
TR-02-95 "Deenside Protective Equipment"  
TR-03-95 "Comparative Analysis of Lead, Barium and Antimony Emission from Handgun Ammunition"  
TR-04-95 "Oleoresin Capsicum in Buffalo"  
TR-05-95 "Forensic Entomology - The Use of Insects in Death Investigations to Determine Elapsed time since Death"  
TR-06-95 "Exposure and Health Status of Canadian Law Enforcement Personnel Associated with Identification Procedures"  
TR-07-95 "A Comparison of Techniques for the Visualization of Fingerprints on Human Skin including the Application of Iodine and ?-Naphthoflavone"



### 1994

- TR-01-94 “Evaluation of the Exposé System”
- TR-02-94 “L’ évaluation du système exposé”
- TR-03-94 “Mobile Computer Workstation - Minimum Standards for Police “
- TR-04-94 “Mobile Computer Workstation - Common Police Requirements”
- TR-05-94 “Mobile Computer Workstation - Technology Developments and Industry Product Review”
- TR-06-94 “Mobile Computer Workstation - Future Trends and Technology Developments”
- TR-07-94 “Polygraph Validity Study - Final Report”
- TR-08-94 “A Comparison of Thenoyl Europium Chelate with Ardrex and Rhodimine 6G for the Fluorescent Detection of Cyanoacrylate Prints”
- TR-09-94 “Protective Equipment”
- TR-10-94 “Extendible Baton Study”
- TR-11-94 “Bomb Suit Helmet Evaluation”
- TR-12-94 “Render Safe Procedures”
- TR-13-94 “A Comparison of Three Forensic Light Sources: Polilight, Luma-lite and Spectrum 9000”

### 1993

- TR-01-93 “Evaluation of Portable Contraband Detector Portable Microwave Dielectrometer M600P”
- TR-02-93 “A Toxicological Review of Capsaicinoids (Oleoresin of Capsicum)”
- TR-03-93 “Explosive Detection Security System (EDSS) Test and Evaluation”
- TR-04-93 “Data Element Standards for Police Information Systems”
- TR-05-93 “Fingerprints on Skin”
- TR-06-93 “Automated Vehicle Location (AVL)”
- TR-07-93 “Residential Break and Enter Expert System”
- TR-08-93 “IMS Signal Processing”
- TR-09-93R “9MM Ammunition for Fisheries and Oceans Operational Use”, Restricted
- TR-10-93R “Detection of Illicit Vegetation”, Restricted
- TR-11-93 “T.E.C. - A New Fluorescent Fingerprint Dye”
- TR-12-93 “Ottawa Police Strategic Information Management System”

## PREVIOUS TECHNICAL MEMORANDUMS

### 1999

- TM-01-99 “Saving Court Time Using A Visual Presenter”
- TM-02-99E “Crime Scene Protocols for DNA Evidence”
- TM-02-99F “Protocole de recherche d’éléments de preuve génétiques sur les lieux du crime.”
- TM-03-99 “Evaluation of International Colour Code System”
- TM-04-99 “Practical Applications of Digital Imaging in the Field of Forensic Firearms Identification”
- TM-05-99 “12 Gauge Bean Bag Ammunition Penetration”
- TM-06-99 “Laser Range Finders in Forensic Firearms Examination”



### 1998

- TM-01-98 “Comments on the Use of Capsaicin Spray”
- TM-02-98E “Common Chemical Techniques Used For Latent Fingerprint Detection”
- TM-02-98F «Techniques chimiques courantes de détection des empreintes digitales latentes»
- TM-03-98 “Improvements to Police Forage Cap Design”
- TM-04-98R “Prototype Audio/Video Transmitter/Receiver”, Restricted
- TM-05-98 “Edge of Light Operational Assessment”
- TM-06-98 “Ampel Probe Evidence Collection Device”
- TM-07-98 “Emergency Equipment Mounting Bracket”
- TM-08-98 “OC Spray - A Review of its Possible Risks Including Carcinogenicity”
- TM-09-98 “Communicable Diseases Standards - Ontario Policing Standards Manual”
- TM-10-98 “Testing of Garment Components of Crowd Control Equipment in Relation to Protection Against Heat and Flame”
- TM-11-98 “Advanced Internet Investigations Course Evaluation Report”
- TM-12-98 “Testing of the Road Spike as a Tire Deflation Device”

### 1997

- TM-01-97 “Hot Meal™ Evaluation”
- TM-02-97 “Electronic Drug Detection Equipment “
- TM-03-97 “Nooklooker Evaluation”
- TM-04-97 “Body Cam Evaluation”
- TM-05-97 “Liquid Chalk Evaluation”
- TM-06-97 “Barefoot Comparison and Identification Research”
- TM-07-97E “Mobile Portable PC Prototype Project”
- TM-07-97F «Prototype de micro-ordinateur Mobile»
- TM-08-97 “Warthog Evaluation - Stop a High Speed Pursuit Before it Begins
- TM-09-97 “Micro-Inspection Technology Update 1997”

### 1996

- TM-01-96 “1995 Duty Belt and Uniform Pant Evaluation”
- TM-02-96 “3D Eyewitness”
- TM-03-96 “Collection of Evidence From Heavy Commercial Vehicle Incidents”
- TM-04-96 “Rapport final du projet pilote sur l’utilisation du Capsicum”
- TM-05-96R “Mobile Portable PC Prototype Project”, Restricted
- TM-06-96 “Spatial and Temporal Crime Analysis Techniques”
- TM-07-96R “Evaluation of the XR-150 Portable X-Ray Generator”, Restricted
- TM-08-96 “Barefoot Comparison and Identification Research”
- TM-09-96 “Regina Police Service Citizen Police Academy”
- TM-10-96R “Canadian Bomb Data Centre Automated Database”, Restricted
- TM-11-96 “Lightman”
- TM-12-96 “Field Evaluation Report of inCHARGE System”



### 1995

- TM-01-95 “Velohorn”
- TM-02-95 “Crowd Control Suit With Integrated Protection”
- TM-03-95 “Bonowi® Protective Equipment”
- TM-04-95R “Evaluation of Buster K910B Contraband Detector”, Restricted
- TM-05-95 “Officer Protection Kits”
- TM-06-95R “Blast Suppression Foam”, Restricted
- TM-07-95 “Managing Technology in the Edmonton Police Service”
- TM-08-95R “Development of a Robot Arm”, Restricted
- TM-09-95 “Impact Loading Tests for Upgrading the Security of Existing Windows”
- TM-10-95 “MR-35 Punch Gun”.
- TM-11-95R “Dual Tone Multi Frequency Controller”, Restricted
- TM-12-95 “Barefoot Comparison and Identification Research”
- TM-13-95 “Development of a New Europium Based Fluorescent Dye”; “Development of TEC for Detection of Cyanoacrylate Prints on Skin”; “Use of Tectopo for Cocaine Exhibits”; “Communication of Research Information to Police”; “Testing New Cyanoacrylate Glue”; “Testing of Minicrimescope”
- TM-14-95R “Track Drive for Bomb Robot”, Restricted
- TM-15-95R “The Study of Interference Suppression for Surface Wave Radar”, Restricted
- TM-16-95R “Mobile Disruptor Transporter”, Restricted
- TM-17-95R “Miniature Emergency Response Vehicle (MERV)”, Restricted
- TM-18-95R “Evaluation of the EXPOSÉ System for Audio Interception”, Restricted
- TM-19-95 “Alternate Patrol Headgear”
- TM-20-95 “D-Sight™ Micro-Inspection Technology”
- TM-21-95 “Micro-Inspection Technology”
- TM-22-95 “Evaluation of Auto-Kill Switch”
- TM-23-95 “Use of Tectopo for Cocaine Exhibits; Communicating Research Results to Police; Miscellaneous”
- TM-24-95 “Kevlar Under gloves”

### 1994

- TM-00-94E “Technical Reports and Memorandums from 1990 to 1993”
- TM-00-94F “Rappports technique et documents technique”
- TM-01-94 “Break and Enter Expert System 1994 Progress Report”
- TM-02-94 “London Police Automated Charge Sheet System”
- TM-03-94 “CONTACT - Computer Delivery of Community Services Information in the Sault Ste. Marie Police Service”
- TM-04-94 “Police Research Databases”
- TM-05-94 “Accident Investigation - Dragsled”
- TM-06-94 “Fingerprint Research Progress 1993”
- TM-07-94 “Winnipeg Police Evaluation of In-Car Video”
- TM-08-94 “An Electronic Flare for the Police Traffic Officer”
- TM-09-94 “Nooklooker - A device to look in hard to reach places”



- TM-10-94 “Semi-automatic Pistol and Ammunition Study”
- TM-11-94 “Evaluation of Pepper Spray for the Winnipeg Police Department”
- TM-12-94 “Railway Evaluation of Emergency Alert”
- TM-13-94 “Protective Clothing for Hazardous Spills”
- TM-14-94 “Toxic-Free Ammunition - Ballistic Evaluation”
- TM-15-94 “Articulating Robot Arm”
- TM-16-94R “Remote Disruptor Transporter”, Restricted
- TM-17-94R “Miniature Emergency Response Vehicle (MERV)”, Restricted
- TM-18-94 “38 Special +P Police Ammunition”
- TM-19-94E “Oleoresin Capsicum Spray”
- TM-19-94F “Capsicum Oléorésineux”
- TM-20-94 “Forensic Entomology Study”

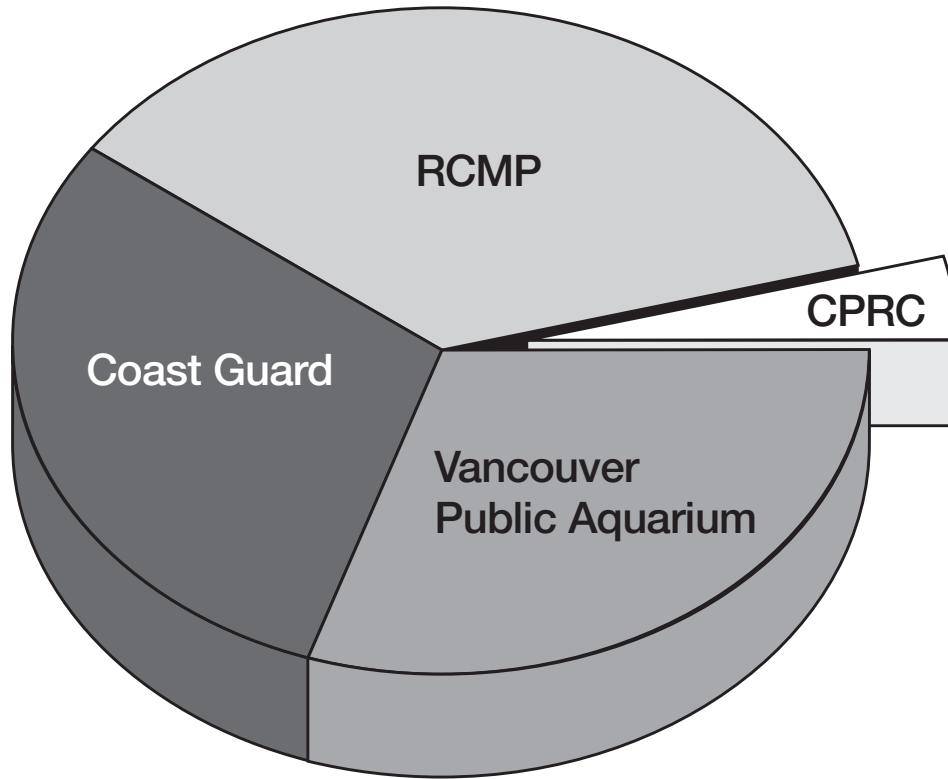
### 1993

- TM-01-93 “Proposed New Patrol Jacket”
- TM-02-93 “Protective Coat for Riot Troop Members (S.T.A.R. Vest)”
- TM-03-93 “Evaluation of Personal Cooling System - Explosive Ordnance Disposal Suits”
- TM-04-93 “Explosive Detection Security System (EDSS) Test and Evaluation”
- TM-05-93 “Tactical Troop Protective Equipment”
- TM-06-93 “Blauer Two Piece Jacket and Pants”
- TM-07-93 “Technology Platforms”
- TM-08-93R “Panic Alarm System Evaluation”, Restricted
- TM-09-93 “Cyclop Video System”
- TM-10-93 “Law Enforcement Television Network Evaluation”
- TM-11-93 “Integrated Information Strategy for the Canadian Police Community”
- TM-12-93 “Vancouver Police In-Car Video Evaluation”
- TM-13-93 “Video Image Booking System”
- TM-14-93 “Vacuum Fingerprint Chamber Evaluation”
- TM-15-93 “Vacuum Metal Deposition Chamber”
- TM-16-93 “Quick Don Gas Mask”
- TM-17-93 “Police Shield Video Camera System”
- TM-18-93 “Two-Piece Integrated Riot Suit”
- TM-19-93 “Gore-Tex Lined Sweater Evaluation”
- TM-20-93 “Electronic Measuring Device”
- TM-21-93 “Chemical Exposure and Health Status of Identification Personnel”
- TM-22-93 “Guideline for Evaluating the Potential Health Effects of Long-term Use of Radar Units on Police Traffic Officers”



# Financial Case Study

## Decomposition in the Marine Environment



The project “Decomposition in the Marine Environment”, described elsewhere in this publication, is a collaborative study supported by the Canadian Police Research Centre, the Royal Canadian Mounted Police, the Canadian Coast Guard and the Vancouver Public Aquarium.

It is an excellent example of the power of leverage or partnerships. No one partner working alone could carry out the project. Working together, these agencies are breaking ground in this area of research. The result will be of benefit to all partners and to the law enforcement community.

CPRC’s investment of approximately \$20,000 is an estimated 4% of the total value of this project. “In Kind” contributions of personnel, equipment and expertise by the other three partners accounts for the greater part of the project value.

Many of the other projects described in this publication are the result of similar collaborations.





## **International Agreement – UK-Canada**

In April 1998, the Solicitor General of Canada signed, on CPRC's behalf, a memorandum of understanding (MOU) with the United Kingdom's Home Office Police Scientific Development Branch (PSDB).

There was a considerable amount of activity under this MOU in the past year. Information was exchanged between PSDB and several areas of the RCMP (Technical Operations, Information and Identification Services, Forensic Laboratory Services, and Contract Policing). The Manager of CPRC visited PSDB and other associated areas of the UK Home Office in November. In March, CPRC had a booth at PSDB's annual equipment exhibition - PSDB 2000. This booth, which was manned by the Chief Scientist and the Manager, showcased several CPRC technologies including "Edge of Light". Another CPRC product, "InvestigAide Software" had an associated booth. There was much interest shown in CPRC and its products. This trip also afforded CPRC and InvestigAide the opportunity to visit several UK police departments and to attend the National Criminal Intelligence Service Conference in Edinburgh. As a result of this initiative:

- Edge of Light is close to signing a licencing agreement with a British company
- Mawashi blunt trauma resistant soft body armour (pre-commercialized version) is being tested by PSDB
- InvestigAide Software has increased visibility and generated interest and product knowledge in the UK



## **TECHNOLOGY PARTNER PROGRAM**

The CPRC receives many requests from industry concerning new and proposed products or new technological ideas that might benefit the police community. As well, there are many technological ideas and requests from the police community. Such products or ideas must be operationally evaluated by the police community, i.e., does it serve a police need, make the job easier, more effective or more cost efficient. On receipt, the CPRC sends the proposal to a Technology Partner Associate (TPA) in a police agency, who in turn circulates the idea within their department to get an operational opinion. This opinion is returned to the CPRC which then decides on the course of action.

In the case of a new prototype product, which might be the product of research or an idea from industry, the CPRC will want an operational opinion on its effectiveness. Most often these new ideas are in the form of a single prototype. The CPRC canvasses the TPAs to solicit evaluators who are interested in testing a prototype. If the CPRC is able to get a number of departments to evaluate the product, they have a corresponding number of pre-production prototypes made and sent for evaluation under criteria that are set by the CPRC and industry. A report, addressing each of the criteria, is written by the department and submitted to the CPRC. This will enable industry to provide a better final product. The evaluation of a new product is an interactive process which, in the end, provides a new and better device to the police community.

The Technology Partner Program also provides a mechanism for dissemination of some police technical information (reports, brochures, videos, etc.) received by CPRC.

The NRC/IRAP is of prime importance in the “technology partner” implementation. IRAP participation is encouraged in all regions of Canada by having the regional IRAP Industrial Technology Advisor (ITA) interact with the local police department. As noted earlier in this report, the IRAP ITAs are responding positively to the CPRC TPA network.



## **TECHNOLOGY PARTNER ASSOCIATES**

<b>POLICE SERVICE</b>	<b>TPA CONTACT</b>	<b>PHONE #</b>	<b>FAX #</b>
Abbotsford	Insp. R. Gehl	(604) 859-5225	(604) 859-4812
Barrie	Ms. Barb Howse	(705) 725-7025	(705) 725-7705
Belleville	S/Sgt. Tony MacKinnon	(613) 966-0882	(613) 966-2701
Brandon	Deputy Chief Keith Buizer	(204) 729-2305	(204) 729-1999
Brockville	Chief Barry King	(613) 342-0127	(613) 342-0452
Calgary	Ms. Diana Bloom	(403) 268-8425	(403) 216-5322
Camrose	Sgt. D.A. Herle	(403) 672-4444	(403) 672-2929
Canadian Pacific Railway	Insp. Clark McLean	(403) 319-7001	(403) 319-7024
Delta	Sgt. Tom Davidson	(604) 946-4411	(604) 946-3729
Durham Regional	Supt. Tony Turner	(905) 721-4229	(905) 579-2273
Edmonton	Ms. Carol Wagar	(780) 421-2249	(780) 421-2281
Fredericton	Mrs. Michele Cronin	(506) 460-2300	(506) 460-2301
Guelph	Chief Lenna Bradburn	(519) 824-1212	(519) 822-0949
Halifax Regional	S/Sgt. Daniel Young	(902) 490-5138	(902) 490-5038
Halton Regional	Mr. Keith Moore	(905) 825-4830	(905) 825-5899
Hamilton-Wentworth Regional	Sgt. Alison Hood	(905) 546-3870	(905) 546-4720
Hull	Capt. Claude Canuel	(819) 595-7603	(819) 595-7824
Kingston	D/Chief Robert Napier	(613) 549-4660	(613) 549-3111
Lévis	M. Sylvain Perron	(418) 838-4108	(418) 838-4119
London	Sgt. Bruce Nelson	(519) 661-5998	(519) 661-5999
Medicine Hat	Sgt. Gord Earl	(403) 529-8400	(403) 529-8444
Miramichi	Sgt. Robert Bruce	(506) 623-2125	(506) 623-2122
National Defence - DND	MWO David Martin	(613) 945-7279	(613) 995-4038
New Westminster	Chief Constable Peter Young	(604) 517-2410	(604) 517-2401
Niagara Regional	Supt. K. Davidson	(905) 688-4111x4445	(905) 685-7034
Ontario Provincial Police	C/Supt. Gary Witherell	(705) 329-6178	(705) 329-6176
Ontario Solicitor General & Correctional Services	Greg Sones	(416) 314-0206	(416) 314-3092
Ottawa-Carleton Regional	S/Sgt. Lance Valcour	(613) 236-1222x5997	(613) 236-1947
Peel Regional	Insp. Fred Shaw	(905) 453-3311x4740	(905) 453-9360
RCMP "D" - Winnipeg	S/Sgt. Frank Ryttersgaard	(204) 984-0945	(204) 984-7919
RCMP "E" - Vancouver	Insp. Jim Begley	(604) 264-2223	(604) 264-3546
RCMP "H" - Halifax	Inspector Jeff Geddes	(902) 426-5783	(902) 426-7964



## Canadian Police Research Centre

<b>POLICE SERVICE</b>	<b>TPA CONTACT</b>	<b>PHONE #</b>	<b>FAX #</b>
RCMP "J" - Fredericton	Sgt. Bernie Arbour	(506) 452-4188	(506) 452-2424
RCMP "K" - Edmonton	Mr. Wing Mah	(780) 412-5591	(780) 412-5636
Regina	Ms. Evelyn Rice	(306) 777-6393	(306) 777-6620
Royal Newfoundland Constabulary	Insp. Connie Snow	(709) 729-8298	(709) 729-8161
S.P.C.U.M.	Alain Tonthat	(514) 280-6922	(514) 280-3527
Saint John	A/Deputy Chief Brian Fillmore	(506) 648-3200	(506) 648-3304
Sainte-Foy	M. Pierre Duchaine	(418) 650-7901x2110	(418) 650-7979
Sarnia	Sgt. Jim Cox	(519) 344-8861	(519) 344-6001
Saskatoon	Mr. Don Bodnar	(306) 975-8336	(306) 975-8319
Sault Ste Marie	Insp. Alan Wright	(705) 759-7350	(705) 759-7820
Sudbury Regional	Ms. Liz Mazza	(705) 675-9171x2630	(705) 674-0348
Summerside	Chief George Arsenault	(902) 432-1200	(902) 436-4118
Sureté du Québec	D/DG Normand Proulx	(514) 598-4411	(514) 598-4729
Taber	Terry Dready	(403) 223-8991	(403) 223-5540
Thunderbay	Mr. Peter Worrell	(807) 625-1307	(807) 623-9242
Toronto	Ms. Kristina Kijewski	(416) 808-7771	(416) 808-7772
Vancouver	Insp. Dave Jones	(604) 717-2749	(604) 257-3716
Victoria	Sgt. Ole Jorgensen	(250) 995-7654	(250) 383-1581
Waterloo Regional	S/Sgt. Kevin Chaulk	(519) 653-7700x713	(519) 650-8551
Windsor	Mr. Barry Horrobin	(519) 255-6866	(519) 255-6191
Winnipeg	Insp. Gary Sandell	(204) 986-6916	(204) 986-7919
York Regional	Insp. Bruce Herridge	(905) 830-0303x7900	(905) 843-5810



## **TECHNOLOGY SHOWCASE**

### **“Emerging Technology Showcase” - RESPONSE 2000 Police Exhibition**

The CPRC coordinated the ‘emerging technology’ part of Blueline’s RESPONSE 2000 police exhibition which was held at Le Parc Conference Centre, Markham, Ontario - April 17-19, 2000.

The purpose of the ‘emerging technology’ area is to allow new innovative technology developers the opportunity to present their ideas to the police community in a police exhibition setting. This helps the developers determine whether there is a market for their technological ideas. There is no cost for the exhibition space thus allowing the new developers to gain valuable feedback at little cost to the developer or service.

The following companies attended the ‘Emerging Technologies’ area.

1. Millennium Police Supplies presented the ‘Millennium Backsaver suspenders a system that takes the weight of the equipment carried traditionally on the police duty belt.

Contact Mark Scharfe, Phone (613) 822-0482, Fax (613) 822-0482

2. Niagara Regional Police Service presented blood droplet models which are useful in court explanation of forensic blood splatter results.

Contact, Craig Moore, Phone (905) 668-3911 x 4386, Fax (905) 880-7042

3. Ryerson Institute presented a photo line-up process for the police investigator.

Contact Dr. John Turtle, Phone (416) 979-5000 x 6499, Fax (416) 979-5273

4. Institute of Aerospace Research presented a micro-inspection technology called ‘Edge of Light’. This technology has potential use in forensic document examination and counterfeiting areas.

Contact Mr. Tony Marinchak, Phone (613) 993-9133, Fax (613) 998-8609

If there are any police services or companies who believe they have an unique police product and wish to participate in next year’s ‘emerging technology’ showcase, please do not hesitate to call John Arnold at (613) 993-3737.



## **Public Safety Test Bed (PSTB) Initiative**

Last year it was announced that the CPRC partner, NRC, had begun work on the Public Safety Test Bed, an initiative which should be of great interest to the Canadian police community. The testbed initiative is now referred to as PS3.

PS3 will be a research and development (R&D) co-operative - developing, testing and providing new public safety information technologies, services and products. These public safety information technology (IT) solutions, together with long distance training, will be delivered over a secure application service provider for the benefit of all law enforcement.

PS3's three core businesses will be:

- the opportunity to do information technology R&D with the eventual users of the technology, in a non-operational secure virtual private network.
- the delivery of newly developed IT tools via the Internet resulting in low cost, low maintenance products for police participants
- the delivery of long distance training for police via the Internet.

The PS3 initiative is good news for the police, for industry, for our political leaders and for Canadians. PS3 will allow the small to medium-sized police departments, often called the "Technology Have Not" departments, the opportunity to participate in the Internet revolution that is sweeping the world. The concept is to develop IT tools front line police officers require/need to better do their work. A non-traditional reverse engineering approach will be used whereby the grassroots police officer can provide input.

Potential PS3 funding sources include - annual membership fees, monthly service fees, pay per use fees and corporate industry support.

The Canadian law enforcement community is enthusiastically embracing the concept of PS3! From April to November 1999 many PS3 presentations were made, resulting in the following support::

The Canadian Association of Chiefs of Police (CACP) unanimously passed a motion supporting the PS3 initiative in April 1999. The Ontario Association of Chiefs of Police (OACP) Technology committee passed a motion recommending support of PS3 in June 1999. The Canadian Association of Police Boards added their support for PS3 in November 1999.

Over the past winter a white paper on PS3 was written (see CPRC web-site [WWW.CPRC.ORG](http://WWW.CPRC.ORG)) and the first PS3 pilot site was identified. The PS3 pilot site in eastern Ontario has twelve municipal police services signed on - Deep River, Pembroke, Perth-Carleton Place, Smiths Falls, Cornwall, Prescott, Brockville, Gananoque, Kingston, Belleville, Quinte West and Ottawa-Carleton. Visits were made to each site to obtain local input as to what they might wish to see on PS3. A needs consensus meeting was held in May 2000.

Several other potential pilot areas in Canada have been identified and approaching participants has begun.

If you have an interest or want to learn more about the PS3 initiative contact - John Arnold at (613) 993-3737 or by e-mail at [John.Arnold@nrc.ca](mailto:John.Arnold@nrc.ca).



# **NATIONAL RESEARCH COUNCIL'S INDUSTRIAL RESEARCH ASSISTANCE PROGRAM**

## **IRAP Helping the Police by Supporting Industry**

The police community does not frequently network with Canadian innovation community. One major objective of CPRC is to afford the opportunity for these two diverse communities to interact.

NRC's Industrial Research Assistance Program (IRAP) is a major Canadian player in the innovation community. IRAP provides Canadian industry with technical advice, linking companies with appropriate technologies and assisting industrial research, development and adaptation. IRAP's 270 Industrial Technology Advisors (ITAs) deliver this highly successful innovation program to Canada's small to medium-sized enterprises, thereby sharing risk in new product development. IRAP's 1998-99 contributory budget was approximately \$ 130 million.

IRAP works with CPRC's technical/operational experts to assist in evaluating potential IRAP projects in the police and security area. CPRC solicits operational feedback from police agencies as to whether the IRAP clients proposal addresses a true police need and whether it can save time and/or money.

Through the "Technology Partner Associate"(TPA) process, CPRC and IRAP together match their client needs (for the CPRC, the client is the police; for IRAP, the client is Canadian industry). The TPA process encourages the local ITA to deal directly with their local police community. Thus local police needs and local industry products can be dealt with on a decentralized basis. For example, in Alberta, several IRAP ITA's are currently working with CPRC and the Edmonton Police Service. Several potential police products have been produced and interaction with the Alberta Research Council has been initiated.

CPRC encourages the Canadian police community to contact us whenever they become aware of a potential police product which may qualify for IRAP support. If you need assistance in identifying your local NRC-IRAP ITA, do not hesitate to contact the CPRC.



## **INTERACTION WITH OTHERS**

The CPRC's mandate of developing police equipment for the Canadian police community naturally interests many organizations. The following lists some of the many agencies and the interactions that took place during the year:

### **United Kingdom Home Office Police Scientific Development Branch (PSDB)**

As noted elsewhere in this report, a Memorandum of Understanding (MOU) is in place between PSDB and CPRC to establish a program of coordination and collaboration for the research, development, evaluation and operational use of law enforcement technologies and to enhance the already existing co-operation between the two agencies.

### **United States Department of Justice National Institute of Justice**

CPRC has negotiated a Memorandum of Understanding (MOU) with the National Institute of Justice (NIJ) to establish a program of coordination and collaboration for the research, development, evaluation and operational use of law enforcement technologies and to enhance the already existing co-operation between the two agencies. CPRC is a member of NIJ's Law Enforcement and Corrections Technology Advisory Council which acts as their user advisory board. There is an existing cooperative research and development agreement (CRADA) for the RCMP Laboratory's Forensic Automotive Paint Database and efforts are well underway to create similar agreements in other areas. Ongoing cooperation exists on a wide range of topics including less-than-lethal technologies, high speed pursuit interdiction, personal wear body armour, contraband detection etc.

### **Criminal Intelligence Service of Alberta (CISA)**

The CPRC regularly attends CISA technical seminars which address current police technology and equipment issues.

### **Criminal Intelligence Service of Ontario (CISO)**

The CPRC regularly attends CISO technical seminars which address current police technology and equipment issues.

### **Ontario Association of Law Enforcement Planners (OALEP) - formerly known as the Ontario Police Forces Planning Association (OPFPA)**

As an associate member, CPRC representatives attend these meetings, contributing experience and expertise in the applications of technology. This organization is an excellent forum for the discussion of new ideas of current police interest.

### **International Association of Chiefs of Police (IACP)**

CPRC shared a booth with InvestigAide Software at the 1999 IACP Conference Law Enforcement Education and Technology Exposition in Charlotte North Carolina.

### **US/Canada Bilateral Counter-Terrorism Research and Development Memorandum of Understanding**

CPRC's participation in this group provides a means of exchanging information and initiating joint projects with American colleagues.





## PROTECTION OF INTELLECTUAL PROPERTY ASSETS

“Intellectual Property” (IP) can be defined as systematic knowledge in any form that would allow one to produce a product for, or supply a service to, someone else. The creation of a new invention or the development of a new technology is an example of an IP asset. IP can also be information databases or ideas which, when put into practice, allow personnel to perform certain tasks. The best known form of intellectual property protection is the patent. Other forms of IP can be protected by other legal instruments provided by the Copyright Act, Industrial Design Act and the Trademarks Act.

Although police agencies do not have as their primary purpose the development of IP, many of their activities, especially in their technical units, result in the creation of IP assets. Some of these IP assets must be reserved for the exclusive use of the owning police agency or the general law enforcement community. However, when the IP assets are of potential commercial value and they can be released to private industry, commercialization can be pursued. Having protected the IP asset, there is the possibility of enhancing the technology through licensing or through cooperative research and development between the public sector and the private sector. The resulting economic benefits to the police agency and Canadian industry can be significant as can those paid to the innovators.

The Science & Technology Branch of the RCMP, in addition to providing staff to the Canadian Police Research Centre, provides a management service for RCMP and CPRC Intellectual Property assets. The Intellectual Property Services Unit of the National Research Council is the RCMP’s primary source of expertise and assistance with such matters. Other police agencies can obtain general information regarding the management of their own IP assets from the CPRC. They will have to use other professional agencies (eg. law firms, patent firms) for specific legal assistance such as licensing and patenting.

A video-cassette entitled “Intellectual Property - Protecting Your Technology”, is available from the CPRC upon request by fax at (613) 952-0156 or email: [cprc@nrc.ca](mailto:cprc@nrc.ca).



# Submitting R & D Proposals

At the centre of this annual report you will find a proposal form which is to be completed as fully as possible. A copy of the form will suffice for our purposes. An Executive Officer must sign the form (Chief of Police, Commanding Officer or equivalent).

The focus of the CPRC is **research, development or evaluation of police equipment**. Liaison is maintained with the Solicitor General’s Police Research Division with respect to social science input of technological innovation.

## GUIDELINES FOR ACCEPTANCE AND ESTABLISHING PRIORITIES

*“Can It Make A Difference”*

- Risk factor ..... Frequency of potential use or occurrence
- Operational Impact ..... How widespread is the need in the community
- Dollar implications ..... Resource saving potential/dollar cost
- Progress/Innovation ..... Operational effectiveness and innovation
- Attainability ..... Technical risks and costs - adapt or create
- Partnerships ..... Potential for risk and cost sharing, degree of commercial viability

A project must fit one of the three categories to be included and the priority that will be assigned to it will be based on a review of the above factors. The results of the review based on the factors will be retained on the project file for reference.

### Category A

Health and safety - protecting the Police in hazardous situations

### Category B

Operational effectiveness - fighting crime, gathering information, intelligence and evidence

### Category C

Protecting the public - traffic, custody, crime prevention,

As an illustration, a category B project that will save significant resources, be applicable throughout the community and is pretty sure of success may well be given the same or higher priority than a project that may protect a police officer in a hazardous situation that occurs very infrequently. Similarly protecting the public with a device that controls high speed chases simply and safely may well come first overall. The goal will be to effectively and as objectively as possible reflect the priorities of the overall police community and their clients.



<p><b>“RESEARCH AND DEVELOPMENT PROPOSAL”</b></p>	<p><b>« PROPOSITION EN MATIÈRE DE RECHERCHE ET DÉVELOPPEMENT »</b></p>
<ul style="list-style-type: none"> <li>• APPEND EXTRA PAGES IF INSUFFICIENT SPACE</li> <li>• COMPLETE EMAIL SUBMISSIONS AVAILABLE AT WWW.CPRC.ORG</li> </ul>	<ul style="list-style-type: none"> <li>• ANNEXER DES PAGES SUPPLÉMENTAIRES SI L'ESPACE EST INSUFFISANT</li> <li>• POUR OBTENIR UN FORMULAIRE ÉLECTRONIQUE COMPLET, CONSULTEZ WWW.CPRC.ORG</li> </ul>
<p>PLEASE TYPE AND FORWARD ORIGINAL TO</p> <p><b>CANADIAN POLICE RESEARCH CENTRE BOX 8885 OTTAWA, ONTARIO K1G 3M8</b></p> <p>Fax (613) 952-0156</p>	<p>VEUILLEZ DACTYLOGRAPHIER ET TRANSMETTRE L'ORIGINAL À L'ADRESSE SUIVANTE :</p> <p><b>CENTRE CANADIEN DE RECHERCHES POLICIÈRES C.P. 8885 OTTAWA (ONTARIO) K1G 3M8</b></p> <p>Télécopieur : (613) 952-0156</p>

<p><b>1. PROJECT TITLE</b></p>	<p><b>TITRE DU PROJET</b></p>	<p>CPRC FILE NO. No DE DOSSIER DU CCPR</p>
		<p>ORIGINATOR FILE NO. N° DE DOSSIER DE L'AUTEUR</p>

<p><b>2. ORIGINATOR/CONTACT (NAME - ADDRESS - TEL. NO)</b></p>	<p><b>AUTEUR/PERSONNE-RESSOURCE (NOM - ADRESSE -N° DE TEL.)</b></p>
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<p><b>3. OBJECTIVE</b></p>	<p><b>OBJECTIF</b></p>
----------------------------	------------------------

<p><b>4. BENEFITS -</b> HOW WOULD THE PRODUCT ASSIST POLICE OPERATIONS?</p>	<p><b>AVANTAGES -</b> QUELLE SERAIT L'UTILITÉ DU PROJET PROPOSÉ POUR LES OPÉRATIONS POLICIÈRES ?</p>
---	--

<p><b>5. HAS RELATED RESEARCH BEEN DONE BEFORE?</b> (IF YES, INCLUDE REFERENCES/CITATIONS)</p>	<p><b>A-T-ON DÉJÀ EFFECTUÉ D'AUTRES RECHERCHES DE CE GENRE ?</b> (SI OUI, INDIQUER LES RÉFÉRENCES BIBLIOGRAPHIQUES)</p>
--	---

6. **CONSEQUENCE OF NON-APPROVAL** - IF THIS RESEARCH IS NOT APPROVED WHAT WOULD THE CONSEQUENCES BE? WHAT ARE YOUR CONTINGENCY PLANS TO MEET THE OPERATIONAL NEEDS ADDRESSED BY THIS RESEARCH?

**CONSÉQUENCES DU REFUS** - SI CETTE RECHERCHE N'EST PAS APPROUVÉE, QUELLES SERONT LES CONSÉQUENCES ? QUELLES AUTRES OPTIONS RÉPONDRAIENT AUX BESOINS OPÉRATIONNELS VISÉS PAR CETTE RECHERCHE ?

7. **ASSISTANCE BY ORIGINATOR** - HOW CAN YOUR ORGANIZATION ASSIST WITH THIS PROPOSED RESEARCH? PLEASE PROVIDE DETAILS  
(A) FUNDING?  
(B) TECHNICAL RESOURCES?  
(C) OTHER WAYS?

**AIDE DE L'AUTEUR** - COMMENT VOTRE ORGANISATION PEUT-ELLE CONTRIBUER À CE PROJET DE RECHERCHE ? VEUILLEZ PRÉCISER  
A) FINANCEMENT ?  
B) RESSOURCES TECHNIQUES ?  
C) AUTRE ?

8. **RESEARCH PERFORMER** - WHO WOULD YOU RECOMMEND DO THE PROPOSED RESEARCH? PLEASE PROVIDE DETAILS.  
(A) YOUR AGENCY/DEPARTMENT?  
(B) OTHER DEPARTMENT/UNIVERSITY/RESEARCH AGENCY

**PERSONNE CHARGÉE DE LA RECHERCHE** - À QUI CONFIEREZ-VOUS CE PROJET DE RECHERCHE ? VEUILLEZ EXPLIQUER  
A) VOTRE ORGANISME/MINISTÈRE?  
B) AUTRE MINISTÈRE-UNIVERSITÉ-ÉTABLISSEMENT DE RECHERCHE

**SIGNATURES**

\_\_\_\_\_  
**ORIGINATOR/AUTEUR**

\_\_\_\_\_  
DATE

\_\_\_\_\_  
**SUPERVISOR/SUPERVISEUR**

\_\_\_\_\_  
DATE

\_\_\_\_\_  
**EXECUTIVE OFFICER OF ORIGINATOR'S ORGANIZATION/  
CADRE SUPÉRIEUR DE L'ORGANISATION DE L'AUTEUR**

\_\_\_\_\_  
DATE

