CANADIAN POLICE RESEARCH CENTRE

ANNUAL REPORT 2000 – 2001

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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. JS61-3/2001
ISBN 0-662-65873-6
ISSN 1181-6244
PAID 411

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Category C
Protecting the Public – Traffic, Custody, Crime Prevention

Chairman's Message

The Canadian Police Research Centre continues to demonstrate the successful collaboration between the Canadian Association of Chiefs of Police, the Royal Canadian Mounted Police and the National Research Council. I am proud of the accomplishments of CPRC. The following are some of the highlights of the activities during 2000-2001.

CPRC staff continue to plan and develop pilot projects for PS3 ("Paradigm Shift in the 3rd Millennium"). This is a cooperative venture designed to develop, test and provide new public safety information technologies, services and products. Together with long distance training, these are being delivered over a secure application service provider for the benefit of law enforcement agencies across the country and around the world.

CPRC continues to communicate its message to the policing community and other partners from the public and private sectors. The Centre will have booths at the trade shows of the 2001 conferences of the Canadian Association of Chiefs of Police, the International Association of Chiefs of Police and the Police Science Development Branch in the United Kingdom.

Recent CPRC Reports such as the "Evaluation of the Effectiveness of Helicopter Patrols in London Ontario" and "An Introduction to Conducting Internet Operations & Investigations" have attracted considerable attention.

The CPRC and Canadian Police College sponsored Basic Internet Skills course received 97.3% positive evaluation from students.

Considerations for the future include the establishment of the CPRC as a not for profit corporation. A presentation made to the Operational Research Committee in August was favourably received.

In conjunction with the September NCTP meeting, which took place at the Canadian Police College (CPC) in Ottawa, CPRC and CPC arranged a major conference between U.S. and Canadian officials to address common issues in computer crime.

As I reflect back to last year's message, I am pleased to report that in the past year, CPRC has done it's part to advance the implementation of the new philosophy which recognizes the importance of communication and the ability of technology to ensure that communication is timely. As forecast, we are working with both public and private sector partners who recognize the importance of the Centre's mission to put into place the systems necessary to ensure we, the policing community, meet the challenges of the future. I look forward to continuing that work in the coming year.

Chief Vince Bevan
Chairman, CACP Operational Research Committee

Introduction to the Canadian Police Research Centre (CPRC)

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.

2000/2001 CPRC Executive Board

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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 been completed and the Blast Guard system, as well as specific components, is 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, has developed a 'blunt trauma' vest called the Promax. Through CPRC, the company had its vest tested in the UK last year. However, the vest's total capability could not be evaluated at that time as there were no standards for blunt trauma protection. The CPRC has been informed that the British Standards Institute has recently developed a draft 'blunt trauma' standard. In 2001, the Mawashi equipment is to be tested against the new draft standard.

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

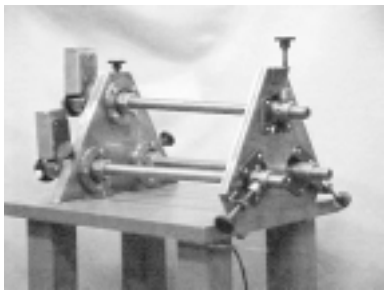
Computer Terminals in Police Cars – Active

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533
Benoît Frenette, Msc, OD (514) 343-7719

L'Association paritaire pour la santé et la sécurité du travail, secteur « Affaires municipales » (APSAM) and CPRC are sponsoring a study by the School of Optometry of the University of Montreal. Computer terminals have been rapidly introduced into police vehicles. Other groups, such as firefighters and ambulance drivers, are being faced with similar installation. There has been some uneasiness and discomfort relative to visual constraints and posture associated with the terminals. The current study is examining the terminals with respect to measure of light, image size and stability, and analyzing vehicles with different terminals in varying conditions such as time of day, interior lighting of vehicle, atmospheric conditions, etc.

For additional information, please contact M. Frenette.

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 developed to perform a reproducible multi-hit test designed to represent shots from an automatic weapon. It 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 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.

Development of Enhanced Torso Protection Systems – Active

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533
Dr. Michael Worswick, University of Waterloo (519) 885-1211 Ext. 5830

Researchers at the University of Waterloo, in association with representatives of four Ontario industrial firms concerned with the production of personnel protection systems and researchers at the Defence Research Establishment Val Cartier (DREV), have undertaken this project which is supported as well by Materials and Manufacturing Ontario (MMO) and the CPRC.

The objectives of the research are:

- to develop mechanical test procedures to evaluate the performance of thoracic body armours against large calibre ballistic impact
- to develop numerical models capable of predicting the performance of such equipment and suitable for use in optimizing the design of competitive, effective equipment
- to support the development and eventual marketing of enhanced body armour designs.

For additional information, please contact Dr. Worswick.

Drug Section Safety Cabinet – Concluded

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

REPORT:
TR-04-2001 “Drug Section Safety Cabinet”

In response to incidents of exposure to street drugs by Drug Section members, CPRC worked with a supplier of biological fume hoods to develop a self-contained portable unit which could be used in non-laboratory environments such as in detachment offices, warehouses, airports, etc. The successful development has led to a product line of innovative fume hoods and drying cabinets for law enforcement use. Not only is worker health and safety addressed, but the integrity of the exhibit material is ensured by eliminating cross-contamination.

Further product information can be obtained from:

Canadian Supplier		Manufacturer	
Phoenix Bio-Tech Corp.		AirClean Systems	
6810 Kitimat Road		Raleigh, North Carolina	
Mississauga, Ontario L5N 5M2		USA	
www.phoenixbiotech.com		www.aircleansystems.com	
Toll Free:	1-800-701-7450	Toll Free:	1-800-849-0472
Phone:	905-826-6330	Phone:	919-876-6142
Fax:	905-826-3288	Fax:	919-876-6189

Duty Belt Suspenders Evaluation – Concluded

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

REPORT: TM-01-2000 "Evaluation of the "Millennium Backsaver" Suspender"

Last year, CPRC worked with Millennium Police Supply, an Ottawa company which developed a police duty belt suspender. When tested wearing the belt supports (suspenders), the vast majority of police officers showed objective, measurable improvement in performance. This correlated positively with subjective findings. Although not all officers reported the same degree of pain relief and ease of function when using belt supports, almost all reported some increased ease and decreased pain.

This project demonstrated that the use of belt suspenders can improve police physical performance.

For further information contact Mr. M. Scharfe of Millennium Police Supply at (613) 795-2637, **www.suspenders.ca**

Establishment of Standards for Police Riot Helmets and Faceshield Protection – Active

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533
David Shanahan, CSA International (416) 747-4264

Spear-headed by the Correctional Service Canada and with input from user agencies and industry, the Canadian Standards Association International is in the process of revising Canadian Standard CAN/CSA-Z611-M86 (July 86).

It is expected that the new standard will be in place by year-end.

For additional information, please call D. Shanahan.

Remote Wireless Explosives Disruptor Initiator – Active

PROJECT MANAGER: Glenn Carroll, CPRC (613) 998-6341
Sheldon Dickie, Canadian Bomb Data Centre (613) 993-7880
Scott Sheppard, 'E' Div. Explosives Disposal Unit (604) 775-6184

The RCMP 'E' Division Explosive Disposal Unit, in conjunction with the Canadian Bomb Data Centre (CBDC), developed a small lightweight 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.

A successful working prototype was demonstrated this past year. Further refinements (miniaturization, ruggedization) are in progress.

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"

In December 1998, the Victoria Police Service began a six-month trial of the TASER technology. The above is their report. Further evaluation of this less lethal technology is currently being undertaken by the RCMP in several Alberta and British Columbia locations. A report is expected by year-end.

For additional information, please call Darren Laur or Peter Sherstan.

Training for Crowd Management and Conflict Resolution – Active

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533
Shirley Paré, (613) 747-9089

REPORT: TR-05-2001"Crowd Management and Conflict Resolution Pilot Workshop Evaluation"

The Crowd Management and Conflict Resolution initiative began as an off-shoot of Saint Paul University's program in conflict studies. It supports the Canadian government's dedication to public order and peace at home and abroad.

A series of workshops and seminars will generate a strategic frame of reference which will then be used as a basis for widespread training of police and others responsible for security. It will also be useful for people from the media, crowd organizers and participants, as well as business and political leaders who may be targets of crowds.

For additional information, please call Shirley Paré.

Category B
Operational Effectiveness – Fighting Crime, Gathering Information, Intelligence and Evidence

Arson Linkage – Active

PROJECT MANAGER: John Arnold, CPRC (613) 993-3737
Ron McKay, Forensic Behavioral Analysis, (613) 521-0791

REPORT: TR-06-2001 "Arson Crime Linkage Analysis System (ACLAS)"

Mr. R. McKay, of Forensic Behavioral Analysis, approached the CPRC to see if there was any interest in supporting the research and development of a serial arson linkage software program. Recent research into the behaviors 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.

In May 2000 the CPRC and the National Research Council's Fire Research section of the Institute for Research in Construction hosted a workshop to discuss the possibility of a research project. A white paper entitled, "Arson Crime Linkage Analysis System (ACLAS)" was prepared and resulted in positive feedback.

In the coming year a full project proposal will be prepared.

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 Explosives 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 as well as electronic and nuclear/biological/chemical diagnosis 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 – Concluded

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

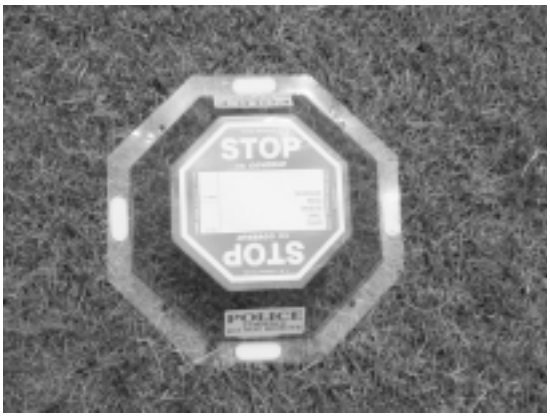
This project, funded by Transport Canada and the US FAA, was to further develop, computerize and evaluate a Cockpit Voice Recorder Explosion Analysis technique. The technique had been claimed to be capable of discriminating between in-flight break-ups caused by structural failures versus those caused by an explosion and to also determine the location of the explosion within 1 metre. Since a rapid and reliable method of determining the nature and location of an on-board event would allow for a better and more focused response from the air safety investigation and

law enforcement agencies, several representatives of air safety investigation agencies were trained on the use of the technique and a validation test was conducted. To date, the contractor has been unable to successfully demonstrate the application of the technique using recordings from past incidents. The evaluation has therefore been terminated and a final report is expected in the coming months.

Covert Computer Logging (Restricted) – Active

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

This method of conducting covert surveillance on computer usage is to undergo field testing.



"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 ½" by 3 ¼" 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 was delayed due to the extended absence of the principal investigator. Data analysis is now underway and a report is expected to be available by the end of summer.

CPC Catalogue on the Web – Concluded

PROJECT MANAGER: John Arnold, CPRC (613) 993-3737
Margaret Brignell, Canadian Police College (613) 998-0779

REPORT: TR-07-2001 "Canadian Police College Library Catalogue on the Internet"

The CPRC brokered this project between the National Research Council's Canadian Institute for Scientific and Technical Information (NRC/CISTI) and the Canadian Police College (CPC) library to develop a public web interface for the CPC catalogue and to host it on CISTI/NRC server.

The report TR-07-2001 describes the process and installation of the web-based catalogue.

To request a document from the CPC library go to their website:

http://www.cpc.gc.ca/library_en.html and click on "Library Catalog".

For the French version go to **http://www.ccp.gc.ca/library_fr.html** and click on "Le catalogue de la bibliothèque".

Decomposition in the Great Lakes Environment – Active

PROJECT MANAGER:
Julie Graham, CPRC (613) 990-9533
Bill Wylie, Niagara Regional Police Service
(905) 688-3911

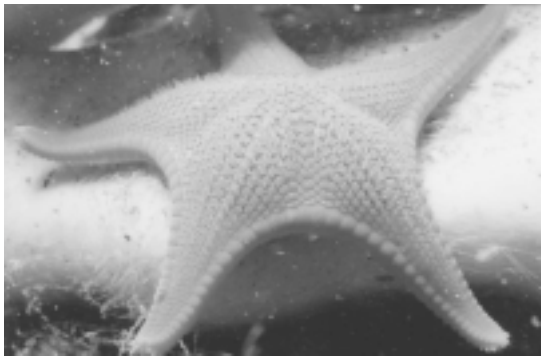
REPORT:
TR-08-2001 "Underwater Digital Photography Equipment for Evidence Recording"

The Niagara Regional Police Service Underwater Search and Recovery Unit (USRU) is currently involved in a study relating to aquatic death/crime scenes. They are working in cooperation with Dr. Gail Anderson of Simon Fraser University. The study is being conducted in Lake Ontario and involves the use of pig carcasses.

The purpose of the study is to determine the post mortem interval (PMI) of submerged bodies by identifying:
- stages of decomposition in fresh water at various depths and water temperatures
- scavenging patterns and aquatic organism succession
- re-float patterns of submerged victims based on depths and water temperature.

For additional information, please contact Bill Wylie.

Decomposition in the Marine Environment – Active



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

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

For additional information call Dr. Anderson.

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

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

REPORT: TR-01-2001 "The Eye in the Sky: Evaluation of Police Helicopter Patrols (The London Police Service Helicopter Research Project)"

The London Police Service approached the CPRC to assist in a project to determine whether police helicopter patrols could reduce the incidence of certain types of crime and the incidence of some calls for service.

A preliminary literature review indicated that claims of helicopter patrols suppressing crime rates are not warranted. Research designs used leave too much room for alternative explanations of the findings. The study itself then concluded that there was:

- no suppression effect on rates of crime;
- no displacement of crime to unpatrolled areas; and
- no spill-over effect of helicopter patrols to unpatrolled areas.

However, analysis of occurrence reports and police logs revealed that there is evidence of faster call response times and increased effectiveness when the helicopter is involved, and that some searches lend themselves exceptionally well to the unique advantages of the helicopter. Opinion surveys indicated that the general public are receptive to the police helicopter. As well, the police officers who were operationally involved with the helicopter were very positive about its contribution to policing.

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 completing a study of the potential to extract forensic DNA evidence from various areas of human teeth. The project has investigated different areas of teeth, such as crowns and roots, and various classes of teeth, such as incisors, molars and premolars, in order to determine whether there are significant differences in the concentration of DNA in the regions and classes of teeth. A report is expected in the fall of 2001.

For additional information, contact Dr. Sweet.

Fingerprint Research – Active

PROJECT MANAGER:
Julie Graham, CPRC (613) 990-9533
Dr. Della Wilkinson, RCMP Forensic Identification Research Services
(613) 998-9718

In cooperation with the Defence Research Establishment Suffield, Dr. Wilkinson initiated her research into the recovery of fingerprints from chemically contaminated crime scenes. This work has received funding from the US Department of Defense. In addition, she is managing a national field trial on new DFO (1,8 diazafluoren-9-one) formulations through various RCMP Identification sections across the country.

She continues a study dealing with the collection of DNA from crime scene fingerprints; the end result will be a protocol for the handling of such evidence. She continues to provide instruction at the Canadian Police College and has completed an evaluation of forensic light sources which will be available in the near future.

For further information, call Dr. Wilkinson.

Forensic Analysis and Comparison of Ink Jet Printers – Concluded

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 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"

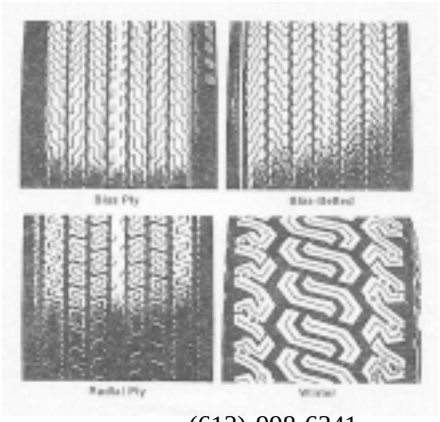
TR-03-96 "Forensic Entomology - The Use of Insects in Death Investigations to Determine Elapsed Time Since Death in Interior and Northern British Columbia Regions"

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

Several studies involving insect succession on pig carcasses are nearing completion in Manitoba, Saskatchewan and Alberta. Reports are expected to be completed in the summer and fall of 2001. The information gathered will assist in determination of time of death in homicide cases. The goal is a countrywide database covering all of the biogeoclimatic zones within Canada.

For additional information, call Dr. Gail Anderson.

Forensic Tire Impression Identification – Active



PROJECT MANAGER: Glenn Carroll, CPRC (613) 998-6341
Lawren Nause, RCMP 'O' Division (905) 953-7503

The RCMP has researched and developed a manuscript for the forensic examination of automotive tires. CPRC is assisting by pursuing commercial opportunities to publish a text for the benefit of the law enforcement and forensic science communities world-wide.

Hangings - A Practical Study of Ligatures and Suspension Point Morphology – Concluded

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533
Pat Downey, Ontario Provincial Police (705)726-6484

REPORT: TR-09-2001"Hangings - A Practical Study of Ligatures and Suspension Point Morphology"

This practical investigation was undertaken to qualify and quantify the physical differences and characteristic distinguishing features of sudden death scenes involving hangings. It had been hypothesized that the physical characteristics of each death scene type differ due to the differential treatment of the ligature and the suspension beam in each case. Suicidal (static fall) hangings and homicidal (hauling up) hangings were studied.

A combination of observations and measurements from the hanging trials and a survey of past cases and review of the literature, has resulted in an educational tool, the data form, to facilitate improvements in the study of the ligature and suspension beam at the scene of suspicious hanging death. Increased awareness of these criteria by investigators will result in the improved investigation of hanging death scenes.

For additional information, please contact Pat Downey.

Illicit Crop Information Management Using Satellite Imagery – Concluded

PROJECT MANAGER: Barry Gaudette, CPRC (613) 998-6340
Tom Howell, "E" Division RCMP Drug Enforcement Branch (604) 264-2900

REPORT: TR-03-2001"Illicit Crop Information Management Using Satellite Imagery"

This project was a pilot project carried out by RADARSAT International for the RCMP Drug Enforcement Branch, under Operation SABOT, to demonstrate the potential for the application of high resolution satellite imagery and related spatial analysis to the RCMP's efforts to eradicate marihuana outdoor grow operations. It involved two separate but complementary streams - development of geographical information systems (GIS) to determine areas with the highest potential for marihuana growth, and image analysis of these potential sites to further interpret images, thereby either supporting or refuting the idea that marihuana is being grown in the specific locations. Once grow locations are confirmed both in the imagery and through the GIS analysis, final validation can take place via aerial reconnaissance. Through the steps of satellite image analysis and cross correlation with the GIS data layers, the analysis process takes the investigator from a list of *potential* sites, to *probable* sites, thereby aiding in the location of outdoor marihuana grow operations.

With the planting methods being employed in the study areas chosen, the image spectral and interpretation analysis did not produce favourable results, mainly due to insufficient imaging resolution. The present resolution of the multi-spectral imagery is four metres; however, efforts are underway to analyze an integrated product of the panchromatic (1m resolution) and multi-spectral images that will have a higher overall resolution. In contrast, results from the GIS were favourable and illustrated that a very good first attempt at locating probable marihuana grow areas could be achieved. Ground verification of actual grow operations was closely correlated to the locations predicted by the GIS analysis of spatial overlays, thereby demonstrating the utility of using a GIS to locate potential illicit crop areas. While eradication and prosecution of outdoor grow operations can best be carried out using traditional methods and approaches, the integrated solution of GIS and, in future, high resolution imagery, will provide an effective non-invasive method of identifying illegal outdoor marihuana grow sites.

International Cybercrime Training Standards and Courseware – Active

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

The CPRC has introduced the National Cybercrime Training Partnership to the Canadian law enforcement and prosecution communities. This U.S. Dept. of Justice initiative has partnered close to 200 agencies and organizations in a cooperative effort to produce computer crime investigation courseware for law enforcement officers and prosecutors. The CPRC has been a long-standing partner and has assisted several agencies and organizations in Canada to become involved.

In addition, the CPRC sits on the Vision and Policy Committee and chairs the International Portfolio of the NCTP. In this capacity it is liaising with other countries to coordinate the development of training programs internationally.

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

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

REPORT: TR-02-2001 "Evaluation of the Test Delivery of The Investigator's Guide to Internet Relay Chat"

The course was designed in collaboration with DM Toddington and Company to familiarize investigators with the capabilities of Internet Relay Chat software from both the casual user and the investigator's perspective. It allows the candidates to access the course from any location and work on-line with the instructors and other candidates. This 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 course has been evaluated by candidates from across Canada and the United States who were both novice and expert users of IRC software.

The IRC Course has been turned over to the Canadian Police College, which will offer it to Canadian and International investigators as an Internet delivered training course.

Internet Security Manuals – Active

PROJECT MANAGER: John Evans, CPRC (780) 421-2853
Sunny Parmar, RCMP (250) 748-5522

REPORT: TM-05-2000 "Introduction to Security: Computer, Internet, Network Security (Secman2000)"

TR-12-2001 "Conducting Internet Operations & Investigations Manual (CIOIM2000)"

TR-13-2001 "CIOIM Supplement 1: Child Pornography Investigations (CIOIM Supp1)"

TR-14-2001 "CIOIM Supplement 2: Using AOL & ICQ (CIOIM Supp2)"

TR-15-2001 "CIOIM Supplement 3: Deception Hosts (CIOIM Supp3)"

TR-16-2001 "CIOIM Supplement 4: Digital Officer Safety (CIOIM DOS)"

The CPRC is using its facilities and contact network to assist in the distribution of a series of manuals on computer security including how to properly conduct online undercover investigations. These manuals have now been adopted by several agencies throughout North America to supplement their training programs.

Micro-inspection – Concluded

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 NRC. EOL technology is useful in visually inspecting surfaces for small features (micro-metre) that might of be of interest to a police identification officer or forensic scientist. Initial trials indicated some success with counterfeit money, passport 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.

Physical 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-10-2001 "The Statistical Analysis of Footprint Data Report 2000-2001"

This ongoing project involves the collection and statistical analysis of footprint data in order to scientifically support the theory that feet can be identified to footwear. It is expected that all analysis will be completed by March 2002.

For additional information, contact Bob Kennedy.

Pocket Interview Recorder And Transcriber (PIRAT) – Concluded

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

Commercially available digital pocket tape recorders are small enough to be carried in the pocket making them useful for recording interviews and statements in the field or office. They can also use embedded voice recognition software to produce a text file of the conversation. The audio recording index files can be downloaded into a computer word processor.

PIRAT was a modification of one such recorder to enable the recording of two voices on separate stereo tracks instead of the usual singular recording. Further modification of the internal software would then allow the tracks to undergo voice recognition separately and produce the text output in a traditional transcript manner.

An initial prototype showed promise, but as the project progressed, it was found that changes were made in the proprietary software and embedded hardware architecture of the newer versions of the recorders. These changes undermined and negated some of the strategies used in the beta version to accomplish the dual voice recording and transcribing.

The project is now under reconsideration pending review of a new approach to the problems encountered.

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.

This database is now operational and undergoing further modification.

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 manoeuver around corners, through doorways, etc. but there was no set of tools that could be quickly and efficiently attached to the wide variety of items encountered by police explosives technicians. An on-going problem has been the opening of doors and drawers in buildings and vehicles. A human is most at risk close to an explosive device; thus the strategy used is to reduce the bomb disposal technician's time in close proximity. Currently there are kits available with a variety of specialty component parts, but none with door/drawer openers. A suite of such devices has been developed and is being commercialized.

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 – Concluded

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 modus operandi 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.

Students at the Northern Alberta Institute of Technology designed and wrote 4 competing database designs of robbery databases. These were presented to the Edmonton Police Service and are now being evaluated for use.

Secure Collaborative Messaging System – Active

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

The CPRC has established a server with software enabling 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. CPRC is now attempting to obtain funding for a system to provide very high security for collaboration amongst groups within the police community.

Use of Force Training Simulators Evaluation – Active

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

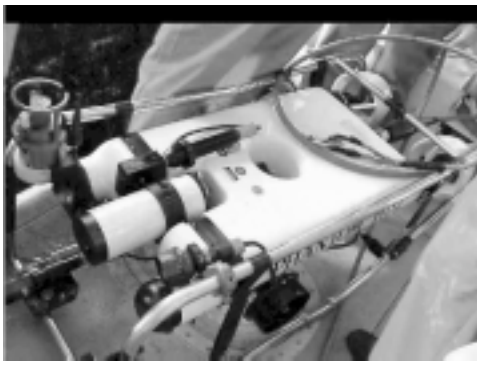
The working group met to address two main tasks:

- to collect and collate data and features of commercially available systems;
- to study the pedagogical basis for simulator training.

The group consists of firearms trainers from major law enforcement training sites in Canada working in collaboration with the Defence and Civil Institute of Environmental Medicine.

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.

Survey of Death Sites – Concluded



PROJECT MANAGER:
Julie Graham, CPRC (613) 990-9533
Bill Wylie, Niagara Regional Police Service (905) 688-3911

REPORT:
TR-11-2001 "Side Scan and ROV Based Sonar for Locating Submerged Cadavers"

In conjunction with the "Decomposition in the Great Lakes Environment" project, the Niagara Regional Police Service Underwater Search and Recovery Unit took the opportunity to expand the scope of the study by surveying the death sites (submerged pig carcasses) using a towed side scan sonar and a 360 degree scanning sonar. This presented an opportunity to identify submerged targets and to provide range and bearing information on the targets. Successful results of the sonar study give police proven tools to locate and map images of submerged victims in depths ranging from shallow water to 1000 feet.

For additional information, please contact Bill Wylie.

ViCLAS Specialist Course - Computer-Based Training – Active

PROJECT MANAGER:
Glenn Carroll, CPRC (613) 998-6341
Derek Ogden and Larry Wilson, RCMP Behavioural Sciences Branch (613) 993-4398

ViCLAS (Violent Crime Linkage and Analysis System) Section members approached CPRC seeking solutions to their program delivery and specialist training. Currently, the ViCLAS Specialist Course is a 3-week course delivered at the Canadian Police College (CPC). ViCLAS personnel regard this as being inordinately long and a drain on ViCLAS Section resources. If the course could, at least, be shortened and the course candidates receive their initial training remotely, then the time spent at the CPC could be significantly reduced. CPRC is working with the private sector to deliver a solution.

Category C
Protecting the Public – Traffic, Custody, Crime Prevention

Cell Design – Active

PROJECT MANAGER: Julie Graham, CPRC (613) 990-9533 Nancy Chevrier, RCMP (613) 993-1993

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

The initial phase of this project was a study of the psychological impact of aggressive and self-destructive behaviour by detainees in holding cells. Recommendations presented in the study will be incorporated in the ongoing Cell Retro-fit. Questionnaires will be presented to selected detachments slated for retrofits. A post retro-fit survey will be conducted and the results will be analysed by those who conducted the initial phase.

For additional information, please contact Nancy Chevrier.

Children's Internet Manifesto – Active

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

This is a project to ensure that the youth of Canada and other countries have a voice in Internet development and regulation. This project is being spearheaded by another organization and CPRC is involved in a support and advisory capacity. The project is in its early stages, with stage one due for completion this year.

I-Rule - Internet Ethics and Safety for K-12 – Active

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

CPRC secured I-Rule, developed by a partnership between the West Virginia High Technology Consortium, National White Collar Crime Center, and the West Virginia Department of Education. I-Rule is a teacher's resource and curriculum manual designed to instruct students on the responsible, legal, ethical and acceptable use of computers. The manual has breakdowns on appropriate modules for each grade level (K-12) and has accompanying lesson plans and presentation material.

The package is now under review by the School Resource unit of the Edmonton Police Service and is being examined for re-development for Canadian schools.

"It's Me" Facial Recognition for Network Security – Active

PROJECT MANAGER: Barry Gaudette, CPRC (613) 998-6340
Sal Khan, VisionSphere Technologies Inc. (613) 740-0245

The primary benefit of face recognition in network security authentication is to significantly reduce the threat of unauthorized network intrusion from inside as well as outside the organization. The 'Its Me' solution is designed to reduce network administrator workload related to passwords and eliminate user annoyance with remembering multiple passwords for various levels of network security. The nature of the solution also improves auditing by capturing the image of both authorized users and non-authenticated persons (i.e. intrusion attempts). The mere existence of a face capture and recognition system will provide a high network intrusion deterrence factor. An evaluation of the "Its Me" technology will be conducted on five work stations of a large secure police network.

Facial recognition technology also has other potential public safety benefits such as perpetrator identification, target person and missing person identification, and physical access control. Facial recognition technology can also complement video surveillance technologies in private and public places. Should the "Its Me" evaluation show that the technology has promise in one application, other projects exploring some of these other applications may be initiated. In the meantime CPRC is closely monitoring information on public safety applications of facial recognition.

MISSING – An interactive educational software game – Active

PROJECT MANAGER: John Evans, CPRC (780) 421-2853
Drew Ann Wake (604) 687-5046

MISSING is an educational computer "game" for children ages 10-14 yrs. The package consists of a CD based interactive "game", discussion guides for teachers, police officers or parents who facilitate the children, and a resource web site. The package was produced by Livewwwires in Vancouver B.C. in conjunction with police subject matter experts. In the course of playing the game, children learn of the psychological techniques and traps that pedophiles can use to entrap them. MISSING helps them to develop strategies for safe Internet use.

The game was distributed to most schools and libraries in Canada and received rave reviews. One problem identified shortly after release was the lack of a 'police officer's manual'. CPRC worked with Livewwwires to remedy this.

Also, in spite of the success, some problems with acceptance arose in specific regions in the country. Additionally Livewwwires was about to undertake a U.S. version but was experiencing difficulty getting support in the U.S. The CPRC used its network of contacts and partnerships to broaden MISSING's acceptance in Canada and assisted in obtaining law enforcement and corporate backing in the U.S. The U.S. version has now been written and is presently undergoing a test release in southern California. Full release of the U.S. version is expected in mid 2001.

Needle Disintegration System – Concluded

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 the units and placed them in different situations for evaluation and comment. There was general agreement that this device is best suited to a medical situation or cleanup situation rather than for on-the-street use by police officers.

Technical Reports and Memoranda

This section lists all the *"Technical Reports"* and *"Technical Memoranda"* that the CPRC has published since 1996. These documents can be downloaded from our web site, www.cprc.org. As well, the web site contains a complete listing of earlier Technical Reports and Memoranda, which are also available for downloading.

It should be noted that in 2000, CPRC ceased using the designation *"Technical Memorandum"*. All documents containing scientific and technical information about CPRC projects are now termed *"Technical Reports"*.

2001 Technical Reports

TR-01-2001 "The Eye in the Sky: Evaluation of Police Helicopter Patrols (The London Police Service Helicopter Research Project)", Paul C. Whitehead, Ph.D., University of Western Ontario, March, 2001

TR-02-2001 "Evaluation of the Test Delivery of the Investigator's Guide to Internet Relay Chat", Sgt. Jamie Kerr, Canadian Police Research Centre, February 2001

TR-03-2001 "Illicit Crop Information Management Using Satellite Imagery"

TR-04-2001 "Drug Section Safety Cabinet"

TR-05-2001 "Crowd Management and Conflict Resolution Pilot Workshop Evaluation"

TR-06-2001 "Arson Crime Linkage Analysis System (ACLAS)"

TR-07-2001 "Canadian Police College Library Catalogue on the Internet"

TR-08-2001 "Underwater Digital Photography Equipment for Evidence Recording"

TR-09-2001 "Hangings - A Practical Study of Ligatures and Suspension Point Morphology"

TR-10-2001 "The Statistical Analysis of Footprint Data Report 2000-2001"

TR-11-2001 "Side Scan and ROV Based Sonar for Locating Submerged Cadavers"

TR-12-2001 "Conducting Internet Operations & Investigations Manual (CIOIM2000)", Cst. Sunny Parmar, RCMP

TR-13-2001 "CIOIM Supplement 1: Child Pornography Investigations (CIOIM Supp1)", Cst. Sunny Parmar, RCMP

TR-14-2001 "CIOIM Supplement 2: Using AOL & ICQ (CIOIM Supp2)", Cst. Sunny Parmar, RCMP

TR-15-2001 "CIOIM Supplement 3: Deception Hosts (CIOIM Supp3)", Cst. Sunny Parmar, RCMP

TR-16-2001 "CIOIM Supplement 4: Digital Officer Safety (CIOIM DOS)", Cst. Sunny Parmar, RCMP

Previous Technical Reports

2000

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"

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

Previous Technical Memoranda

2000

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 "Introduction to Security: Computer, Internet, Network Security (Secman2000)"

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

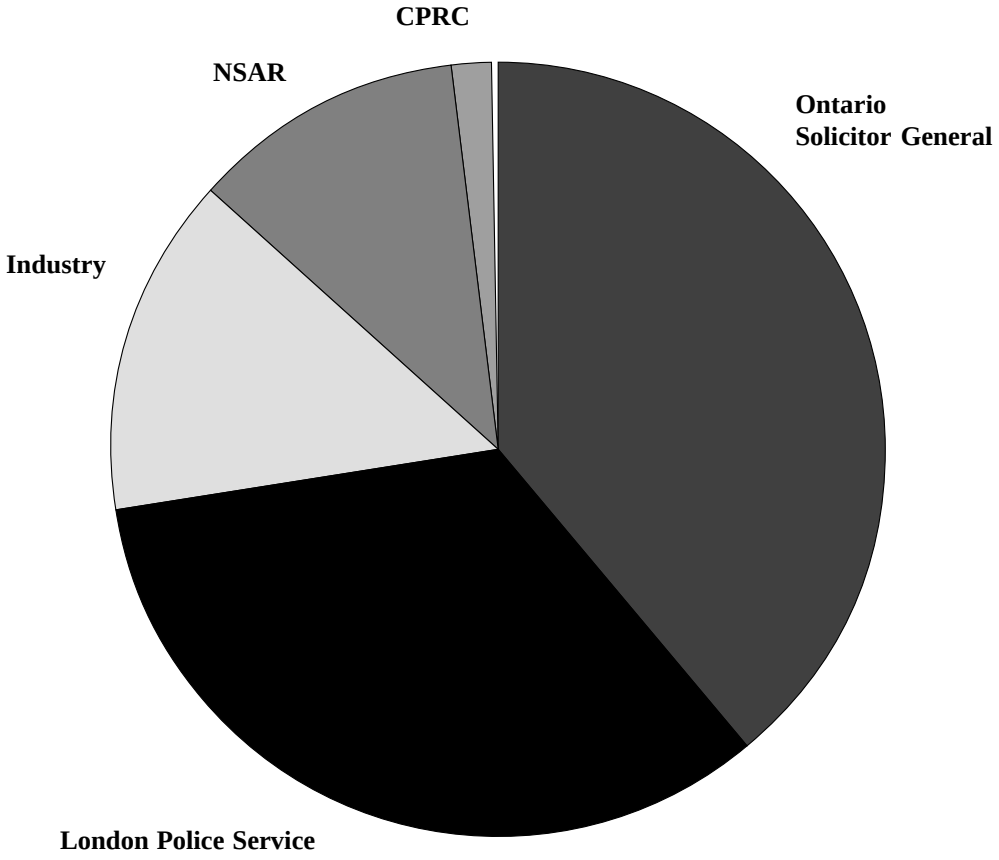
TM-01-97 "Hot Meal™ Evaluation"
TM-02-97 "Electronic Drug Detection Equipment"
TM-03-97 "Nooklooker Evaluation"
TM-04-97 "Body Cam Evaluation"
TM-05-97 "Liquid Chalk Evaluation"
TM-06-97 "Barefoot Comparison and Identification Research"
TM-07-97E "Mobile Portable PC Prototype Project"
TM-07-97F «Prototype 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"

Financial Case Study

Evaluation of the Effectiveness of Helicopter Patrols, London, Ontario



The project "Evaluation of the Effectiveness of Helicopter Patrols, London, Ontario", described elsewhere in this publication, was a collaborative study supported by the Ontario Ministry of the Solicitor General and Correctional Services, National Search and Rescue Secretariat (NSAR), London Police Service, industry (fifteen corporate partners) and the Canadian Police Research Centre.

This project was an excellent example of the power of leverage of partnerships. No one partner working alone could have carried out the project. Working together, these agencies were able to break new ground in this area of research and thereby benefit the law enforcement community.

Although CPRC's investment of approximately $10,000 was only about 2% of the total value of this project, CPRC's involvement helped bring together other partners. "In kind", and actual contributions of personnel, equipment and expertise by these other partners accounted for the greater part of the project value of $ 566,400.

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

Technology Showcase

The CPRC coordinated the 'emerging technology' part of Blueline's RESPONSE 2001 police exhibition held at Le Parc Conference Centre, Markham, Ontario - April 24-25, 2001.

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. VisonSphere - facial identification system provides online identification for police applications.
   Contact Mr. S. Kahn (613) 740-0245
2. Autovu Technologies - mobile license plate reading from mobile vehicles.
   Contact Mr. L. Sedelsky (514) 843-5212 ext 30
3. VoiceIQ - voice recognition products that enhance police productivity in fraud detection and crime prevention.
   Contact – Mr. N. Macdonald (905) 948-8266 ext. 219
4. P-Cel - high speed chase elimination and theft reduction system.
   Contact – Mr. L. Martin (613) 825-7611
5. Livewwwires - "Missing", an Internet kidnapping game which warns about predators on the Internet.
   Contact – Ms. D. Wake (604) 687-5046
6. Pine Tree Law Enforcement – less lethal rounds for 12 gauge and 37/40 mm.
   Contact – Mr. B. Lampert (519) 344-4445
7. Future Development – a specialty observation /surveillance equipment design house.
   Contact – D. Lamas (403) 720-0507

Any police services or companies who believe they have an unique police product and wish to participate in next year's 'emerging technology' showcase, should call John Arnold at (613) 993-3737.

Assistance to the Private Sector

In addition to the companies involved in our projects and technology showcases, CPRC offers assistance to enterprises in the public safety field. Such assistance includes provision of information, consultation, brokerage, and general networking. The following is a listing of companies we have worked with in the past year. For more information on any of these companies or our services, please contact us at cprc@cprc.org.

- Academic Press - Publishing, London UK
- Advanced Systems Technology Canada – E-Learning, Miramichi NB
- Allwend Consultants – IT consultants, Ottawa ON
- Anjura Technology Corporation - Business processes, Ottawa ON
- Arnold Engineering – Riot Equipment – Northhampton, UK
- Business Watch – Pawn Shop System, Regina SK
- CAI Inc. - Software, Ottawa ON
- Caris Universal Systems – Geographical Information Systems, Fredericton NB
- Davtair Industries - Metal fabrication, Ottawa ON
- Disclosure Technologies – Digital CD security, Ottawa ON
- DiTek Software – Accident reconstruction, Markham ON
- D.M. Toddington and Associates – E-Learning, Vancouver BC
- DMC Dynamaps – Police geographical Information, Victoria BC
- ECRI - Geographical Profiling, Vancouver BC
- EDS – System Integrator, Ottawa ON
- EOD Performance - Bomb Disposal Equipment, Ottawa ON
- EWA – Intelligence systems, Virginia USA
- Highpoint Security – Special 'I' equipment, Morrisburg ON
- Imagis Technologies – Mugbook systems, Vancouver BC
- Innuktun Services – Robotics, Nanaimo BC
- INO – Vision systems, Quebec City QC
- Integrated Telecommunications Systems – Special 'I', Vancouver BC
- InTime Solutions – Scheduling systems, Burnaby BC
- InvestigAide Software – Expert systems, Ottawa ON
- IRISsystems - Thermal imaging, Burnaby BC
- King Carter Inc. – Inventor, moulding expert, Kingston ON
- Learn Stream – E-Learning, Fredericton NB
- Lifelong.com - E-Learning, Ottawa ON
- Life-Safer, Inc. - Rescue device, San Diego CA
- Lojack Canada - Vehicle recovery, Toronto ON
- March Networks - Video systems, Kanata ON
- Med-Eng Systems Inc. – Bomb and riot suits, Ottawa ON
- NetNanny Software – Internet protection, Bellevue, Washington
- Noricum Trade and Investments Ltd. - Venture capital, Cyprus
- Phoenix Bio-Tech Corp. - Filtration/fume hoods, Toronto ON
- PredictiveIT – Application Service Provider, Ottawa ON
- Premier GPS – GPS systems, Calgary AB
- Reflex Technologies – Digital video, Belleville ON
- Safe-Loop.com – E-mail security, Ottawa ON
- StorageQuest – Digital storage systems, Ottawa ON
- SUN Microsystems – Computer systems, Ottawa ON
- The Halifax Group - Information Technology, Ottawa ON
- Ucora – Information systems, Vancouver BC
- Versaterm – Police information systems, Ottawa ON
- Whatman-Fitzco - Filtration, UK
- 4th Watch Systems – Information Technology, Toronto ON

National Research Council's Industrial Research Assistance Program

IRAP Helping the Police by Supporting Industry

The police community does not frequently network with the 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 2000-01 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 an IRAP client's 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.

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.

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 arising from the police community. New 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

Police Service	TPA Contact	Phone #	Fax #
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) 966-8991
Brandon	Chief R.B. Scott	(204) 729-2305	(204) 729-1999
Brockville	Chief Barry King	(613) 342-0127x4222	(613) 342-0452
Calgary	Ms. Diana Bloom	(403) 206-8425	(403) 216-5322
Camrose	Insp. D.A. Herle	(780) 672-4444	(780) 672-2929
Canadian Pacific Railway	Insp. Bruce Berringer	(403) 319-7007	(403) 319-7024
Delta	Sgt. Tom Davidson	(604) 946-4611x5284	(604) 940-8920
Durham Regional	Supt. Greg Mills	(905) 579-1520x4302	(905) 721-4273
Edmonton	Ms. Carol Wagar	(780) 421-2249	(780) 421-2281
Fredericton	Mrs. Michele Cronin	(506) 460-2412	(506) 460-2301
Halifax Regional	S/Sgt. Daniel Young	(902) 490-5138	(902) 490-5038
Halton Regional	Mr. Keith Moore	(905) 825-4830	(905) 825-8447
Hamilton-Wentworth Regional	Sgt. Alison Hood	(905) 546-3870	(905) 546-4720
Hull	Mme Sylvie Deschamps	(819) 595-7680	(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. Scott Blandford	(519) 661-2583	(519) 661-5013
Medicine Hat	Sgt. Gord Earl	(403) 529-8400	(403) 529-8444
Miramichi	Sgt. Robert Bruce	(506) 623-2124	(506) 623-2122
National Defence - DND	MWO Pete MacFarlane	(613) 945-7279	(613) 995-4038
New Westminster	Chief Constable Lorne Zapotichny	(604) 517-2410	(604) 517-2401
Niagara Regional	Det Constable Craig Moore	(905) 688-4111x4442	(905) 688-1914
Ontario Provincial Police	C/Supt. Gary Witherell	(705) 329-6178	(705) 329-6176
Ottawa-Carleton Regional	S/Sgt. Lance Valcour	(613) 236-1222x5997	(613) 236-9360
Peel Regional	Insp. Stephanie Bertram	(905) 453-3311x4740	(905) 453-9360
RCMP “D” - Winnipeg	S/Sgt. Frank Ryttersgaard	(204) 983-8138	(204) 983-2222
RCMP “E” - Vancouver	Insp. Jim Begley	(604) 666-9601	(604) 666-1890
RCMP “H” - Halifax	Cpl. Al Harding	(902) 426-7460	
RCMP “J” - Fredericton	Sgt. Bernie Arbour	(506) 452-4188	(506) 452-2424
RCMP “K” - Edmonton	Mr. Wing Mah	(780) 412-5591	(780) 412-5636

Police Service	TPA Contact	Phone #	Fax #
Regina	Ms. Evelyn Rice	(306) 777-6393	(306) 949-7276
Revenue Canada	A/Director Pierre Pilon	(613) 954-4112	(613) 952-7825
Royal Newfoundland Constabulary	Sgt. Robert Escott	(709) 729-8242	(709) 729-8161
S.P.C.U.M.	Alain Tonthat	(514) 280-6922	(514) 280-3527
Saint John	A/Deputy Chief Brian Fillmore	(506) 648-3301	(506) 648-3304
Sarnia	Sgt. Frank Rodin	(519) 344-8861x6078	(519) 344-6001
Saskatoon	Mr. Don Bodnar	(306) 975-8336	(306) 975-8319
Sault Ste Marie	Insp. Alan Wright	(705) 759-7350	(705) 949-3082
Solicitor General	J.P. Labonte	(613) 842-1849	
Solicitor General (Ontario)	Greg Sones	(416) 314-3015	(416) 314-3040
Sudbury Regional	Ms. Liz Mazza	(705) 675-9171x2630	(705) 674-0348
Summerside	Ian N. Drummond	(902) 432-1201	(902) 436-4118
Sureté du Québec	D/DG Normand Proulx	(514) 598-4411	(514) 598-4729
Taber	Terry Dreaddy	(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) 995-7297	(250) 995-7207
Waterloo Regional	S/Sgt. Matt Torigian	(519) 653-7700x713	(519) 650-8551
Windsor	Mr. Barry Horrobin	(519) 255-6866	(519) 255-9880
Winnipeg	Insp. Gary Sandell	(204) 986-986-7870	(204) 986-4754
York Regional	Supt. Bruce Herridge	(905) 830-0303x7900	(905) 895-4149

PS3

(As mentioned last year, the public safety test bed 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:

- a non-operational secure virtual private network providing the eventual end-users of a technology the opportunity to participate in IT R&D
- 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/ E-Learning for police via the Internet.

PS3 will allow 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 that will enable front line police officers to do their work more efficiently and effectively. Development of these tools will involve a non-traditional reverse engineering approach whereby the grassroots police officer can provide input.

The following activity took place this past year:

- In April 2000, potential funding sources were considered through the Federal government's NRC Atlantic Initiatives program. Unfortunately this did not work out.
- In November 2000, the PS3 business case was drafted. It was recognized that getting regional support to a national project will require a regional PS3 presence.
- In December 2000, NRC was approached by a New Brunswick group led by the Fredericton police and the University of New Brunswick to host a regional PS3 site in Fredericton. This opportunity is actively being pursued.
- In April 2001, the Canadian Association of Chiefs of Police Board of Directors agreed to set up the PS3 organization under the CACP Research Foundation, a not-for-profit organization.

For the year 2001, two steering committees, E-Learning and Technology, are being established. These committees will be seeking input from the community. Four potential pilot areas for PS3 regional test beds in Canada have been identified – New Brunswick, Eastern Ontario, Alberta and British Columbia. It is anticipated that the PS3 office will be in operation by October 2001.

For further information on the PS3 initiative contact - John Arnold at (613) 993-3737 or by e-mail at John.Arnold@nrc.ca.

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 and much information was exchanged. Dr. Peter Young, the Deputy Director and Chief Scientist of PSDB, visited CPRC in May 2000. Highlights of this visit included a tour of the Ottawa Police Communications Centre, a demonstration of less lethal weapons, a tour of the RCMP Technical Operations Directorate, and a visit to Med-Eng Systems Inc. In August 2000, CPRC was pleased to host three additional visitors from PSDB. After spending two days with the Ottawa-Carleton Regional Police Service, Supt. Trevor Jones, Ms. Tara Donnelly and Mr. Graham Parker visited with CPRC and met with RCMP personnel from Contract Policing Branch, the Firearms Section of the Forensic Laboratory, and the Technical Operations facility. The particular focus of this visit was the use of less lethal technology by Canadian police agencies. In March 2001, CPRC had a booth at PSDB's annual equipment exhibition - PSDB 2001. This booth, which was manned by the Chief Scientist and the Manager, focused on the 10th anniversary of CPRC and showcased several CPRC technologies. Med-Eng Systems Inc. shared the booth with CPRC and demonstrated their bomb suit, one of the top 10 CPRC projects from our first ten years. As well, they demonstrated police personal protective equipment for crowd control situations. Another "top 10" 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 additional UK police departments and increase British awareness of CPRC and its products.

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.

British Standards Institution (BSI) Technical Sub-committee PH/3/12: "Protective clothing and equipment for use in violent situations"

PH/3/12 was formed to assist the United Kingdom police service to comply with certain aspects of new, national health and safety legislation. PH/3/12's task is to prepare British Standards covering the personal protective equipment used by the police service. The scope of the work program covers personal defence shields, gloves, footwear, limb protectors, torso protectors and clothing (e.g. flame-resistant riot coveralls). In 2000, CPRC, along with police research organizations in the USA and Australia, was asked to join this committee whose membership includes the Association of Chief Police Officers of England and Wales (ACPO) and other British police organizations as well as PSDB, the Ministry of Defence (MoD), Department of Health (DoH), representatives of nine trade associations, three test houses, and other co-opted experts, academics, and medical advisers.

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. In addition to a pre-existing cooperative research and development agreement (CRADA) for the RCMP Laboratory's Forensic Automotive Paint Database, this MOU has led to joint projects with respect to the Firearms Reference Table (a software database) and a multi-hit test standard for soft body armour. As well, on-going cooperation exists on a wide range of topics including less-than-lethal technologies, high speed pursuit interdiction, personal protective equipment, contraband detection etc.

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. The manager of CPRC is the Canadian chair of two of this group's committees (Investigative Support and Forensics Committee and the Transition Advisory Panel).

National Cybercrime Training Partnership (NCTP)

John Evans of CPRC continues to chair the international portfolio of the U.S. Department of Justice sponsored National Cybercrime Training Partnership (NCTP), a group tasked with addressing the development and standardization of computer crime training programs for police and prosecutors in the USA. In conjunction with the September NCTP meeting, which took place at the Canadian Police College (CPC) in Ottawa, CPRC and CPC arranged a major conference between U.S. and Canadian officials to address common issues in computer crime. This conference was attended by representatives of the Solicitor General's Department, the RCMP, Department of Justice, Department of National Defence, Ottawa Police, Canadian Security Intelligence Service, and U.S. representatives of U.S. Justice, F.B.I., Customs, B.A.T.F., Secret Service, National Security Agency, and many State agencies.

International Association of Chiefs of Police (IACP)

CPRC had a booth at the 2000 IACP Law Enforcement Education and Technology Exposition in San Diego, California. As well, John Evans presented a paper on the state of development of Computer Crime Training Software

Criminal Intelligence Service of Alberta (CISA), Criminal Intelligence Service of Canada (CISC) and Criminal Intelligence Service of Ontario (CISO)

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

Ontario Association of Law Enforcement Planners (OALEP)

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.

Protection of Intellectual Property Assets

Some of our most innovative solutions come from our own employees. Police personnel faced with not having the proper tools for their jobs will often design and build a prototype themselves. Do you have a piece of equipment or software developed by yourself or unit? Does your daily work involve research and development? The creation of a new invention or the development of a new technology is an example of an IP asset.

Intellectual property can fall into several broad categories. Some are defined by statute and are referred to as 'hard' rights. These include those assets which can be protected by patent, trademark, copyright, industrial design, integrated circuit topography, and plant breeder rights. Others, referred to as 'soft' rights include trade secrets, know-how, and show-how. These really are assets and not only have value commercially but can assist you and your colleagues to do your jobs safely and effectively.

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 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 e-mail: cprc@nrc.ca.

CPRC's 10th Anniversary

The theme of our booth at the 2000 CACP Meeting in Saint John, New Brunswick was CPRC's 10th Anniversary.

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.

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.

Canadian Police Research Centre

Centre canadien de recherches policières

"RESEARCH AND DEVELOPMENT PROPOSAL"	**« PROPOSITION EN MATIÉRE DE RECHERCHE ET DÉVELOPPEMENT »**
• APPEND EXTRA PAGES IF INSUFFICIENT SPACE • COMPLETE EMAIL SUBMISSIONS AVAILABLE AT WWW.CPRC.ORG	• ANNEXER DES PAGES SUPPLÉMENTAIRES SI L'ESPACE EST INSUFFISANT • POUR OBTENIR UN FORMULAIRE ÉLECTRONIQUE COMPLET, CONSULTER WWW.CPRC.ORG
PLEASE TYPE AND FORWARD ORIGINAL TO **CANADIAN POLICE RESEARCH CENTRE** **BOX 8885** **OTTAWA, ONTARIO K1G 3M8** Fax (613) 952-0156	VEUILLEZ DACTYLOGRAPHIER ET TRANSMETTRE L'ORIGINAL À L'ADRESSE SUIVANTE : **CENTRE CANADIEN DE RECHERCHES POLICIÈRES** **C.P. 8885** **OTTAWA (ONTARIO) K1G 3M8** Télécopieur : (613) 952-0156

1. **PROJECT TITLE** — **TITRE DU PROJET**

CPRC FILE NO.
No DE DOSSIER DU CCPR

ORIGINATOR FILE NO.
N° DE DOSSIER DE L'AUTEUR

2. **ORIGINATOR/CONTACT** (NAME - ADDRESS - TEL. NO) — **AUTEUR/PERSONNE-RESSOURCE** (NOM - ADRESSE -N° DE TEL.)

3. **OBJECTIVE** — **OBJECTIF**

4. **BENEFITS -**
HOW WOULD THE PRODUCT ASSIST POLICE OPERATIONS?

AVANTAGES -
QUELLE SERAIT L'UTILITÉ DU PROJET PROPOSÉ POUR LES OPÉRATIONS POLICIÈRES ?

5. **HAS RELATED RESEARCH BEEN DONE BEFORE?**
(IF YES, INCLUDE REFERENCES/CITATIONS)

A-T-ON DÉJÀ EFFECTUÉ D'AUTRES RECHERCHES DE CE GENRE ?
(SI OUI, INDIQUER LES RÉFÉRENCES BIBLIOGRAPHIQUES)

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/MINISTÉRE?
B) AUTRE MINISTÈRE-UNIVERSITÉ-ÉTABLISSEMENT DE RECHERCHE

SIGNATURES

_____ _____
ORIGINATOR/AUTEUR ***DATE***

_____ _____
SUPERVISOR/SUPERVISEUR ***DATE***

_____ _____
EXECTUVE OFFICER OF ORIGINATOR'S ORGANIZATION/
CADRE SUPÉRIEUR DE L'ORGANISATION DE L'AUTEUR ***DATE***

Canada