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# CPRC

CANADIAN POLICE RESEARCH CENTRE



# CCRP

CENTRE CANADIEN DE RECHERCHES POLICIERES

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## ***TM-07-93*** ***The Canadian Police Research Centre's Technology Platform Program***

*By J.G. Arnold*

TECHNICAL MEMORANDUM

Submitted by  
Canadian Police Research  
Centre (CPRC)

October 1993

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## **Executive Summary**

Technology Platforms are best described as a systematic process for new research ideas, new products (actual and proposed) and the evaluation of technology for the Canadian police community.

The CPRC acts as the interface between industry and the police when introducing new technology that may benefit the police community. Once a prototype is developed operational input leads to a better product. This not only benefits the Canadian police community but industry as well.

Technology Platforms look at technological and operational challenges that the Canadian police community faces daily. The same police technical problems exist in many jurisdictions. By focusing and sharing ideas at the CPRC police needs can be efficiently addressed. By pooling resources, the participants share the risk in terms of new product development. They also get valuable input resulting in a product that they want.

Police departments participation in the development of police equipment will ease the technological challenges that they currently face.

A “Technology Platform” member contributes to the advancement of industry and technology for the benefit and protection of Canadians. Canadian police are invited to participate in this process.

## Résumé

Les ((Programmes de technologie)) constituent en fait un processus systematique d'étude de nouvelles idées de recherche et de nouveaux produits (existants et proposes) ainsi que d'évaluation des technologies au service des forces policières du Canada.

Le Centre canadien de recherches policières (CCRP) sert d'interface entre l'industrie et les forces policières au moment de l'introduction de nouvelles technologies pouvant profiter aux forces de l'ordre. Une fois un prototype mis au point, on a avantage à l'améliorer en fonction de commentaires fondés sur son utilisation pratique. Il en va de intérêt non seulement des services de police, mais aussi de l'industrie.

Les Programmes de technologie évaluent les défis technologiques et operationnels que doivent relever les forces policières canadiennes chaque jour. Les mêmes problèmes techniques existent dans divers services de police. En regroupant et en partageant les idées au sein du CCRP, on parvient à satisfaire efficacement aux besoins des forces policières. En mettant en commun leurs ressources, les participants se partagent les risques associés à la mise au point de nouveaux produits. Ils peuvent aussi obtenir des conseils utiles leur permettant de créer le produit qu'ils veulent.

En participant à la mise au point d'équipement de police, les forces policières pourront venir à bout des problèmes technologiques auxquels elle sont actuellement confrontées.

Les membres des Programmes de technologie contribuent au progrès de l'industrie et de la technologie visant à assurer le bien-Qtre et la protection des Canadiens. Les forces policières du Canada sont invitées à participer à ce processus.

# Technology Platforms

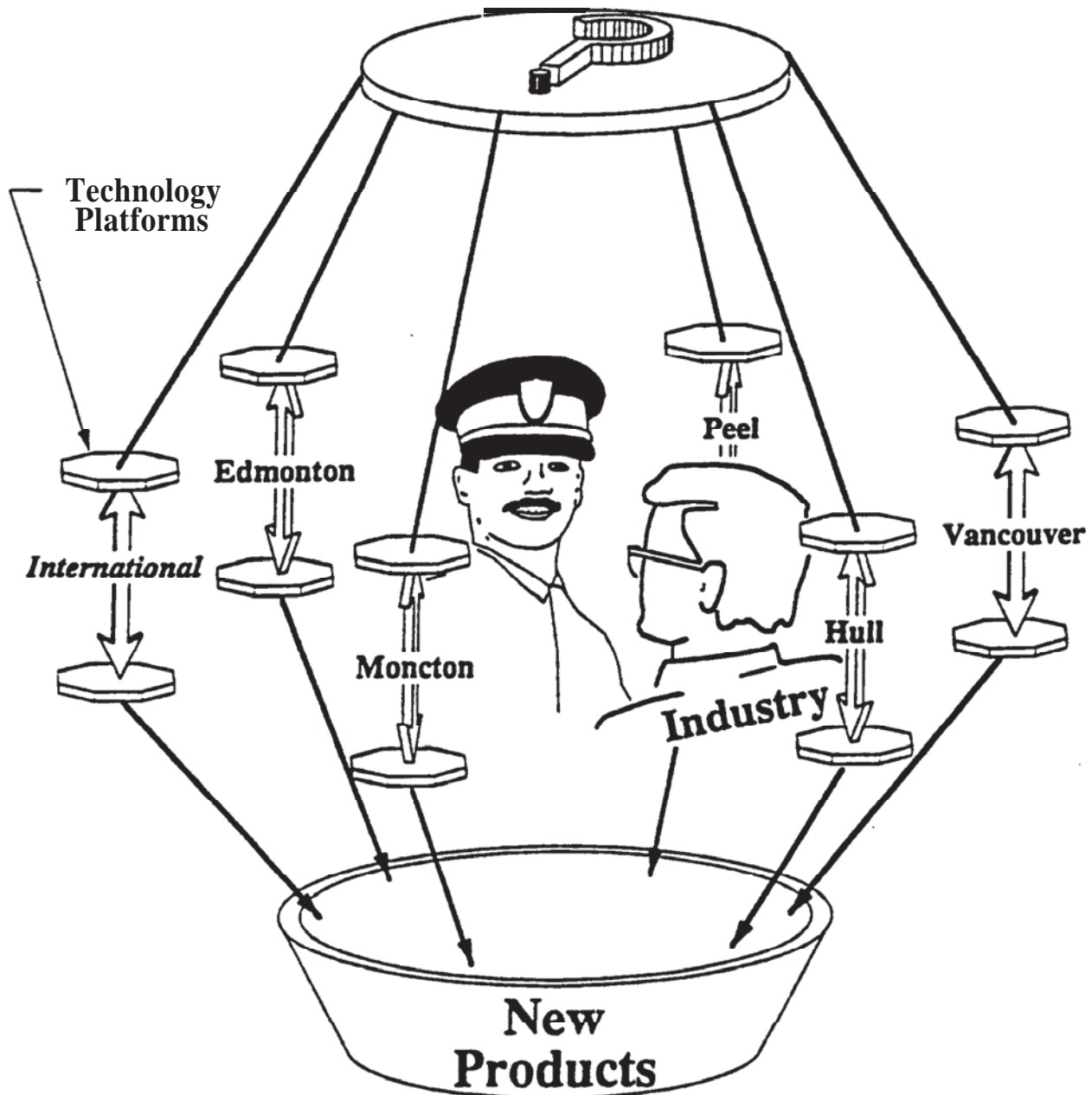


Figure 1. Technology platforms

# TECHNOLOGY PLATFORM BACKGROUND

## THE CONCEPT

The Canadian Police Research Centre's concept of "Technology Platforms" can best be described as a systematic process for looking at new research ideas, new products (actual and proposed) and the evaluation of technology in Canadian police departments.

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 requests from the police community that are addressed to the CPRC. To action these requests the "product or idea" must be operationally evaluated by the police community, ie does it serve a police need making their job easier, more effective and more cost efficient. The CPRC would send it immediately on receipt to a "*Technology Platform*", which resides right in the police department. The officer in charge of the "*Technology Platform*" in the department would get an operational opinion on the new product or idea. This police opinion would be sent to the CPRC who would then action it as a result of the operational feedback.

In the case of a new prototype product, which might be the product of research or an idea from industry, the CPRC would want an operational opinion on its effectiveness. In this case, industry would be involved. Most often these new ideas would be in the form of a single prototype. The CPRC would canvas the "*Technology Platforms*" to solicit evaluators who would be interested in looking at a prototype. If, the CPRC was able to get six departments that would evaluate such a product, then the CPRC would have six pre-production prototypes built and sent for evaluation under a criteria that would be set by the CPRC and industry. A report would be written by the department and submitted to the CPRC addressing each of the criteria thus enabling the industry to fine tune their product thereby providing a better operational product to the police community. The evaluation of a new product is an iterative process which in the end provides a new and better device to the police community from industry and the CPRC program.

This iterative process not only develops a better product but also introduces it to the market for which it was intended. This is very attractive to the developer as marketing has already started. It is well known that if one can save time in this area, the costs of any new product will be less making it more affordable to the client, the police.

## SHARING THE RISK

Developing new police products or ideas requires a certain amount of risk. In dealing with new technologies if all the participants share the risk in terms of time and monies a much better product will be delivered. When the product becomes successful all will benefit. The direct police benefits are:

1. **YOU GET WHAT YOU WANT.** The final product to be delivered to the police is a better product that has had police input at the very early stages.
2. **IT MEETS POLICE NEEDS.** By getting police input at an early stage the needs of the community are met. This allows industry to address the police needs and come up with a better product. It is sometimes assumed by the police community that industry has large budgets to address their market needs. This is not true. In fact for the police to get what they need to better do their job it is important that industry and the community work together so that all will benefit.
3. **FINANCIAL RETURN.** By participating as a technology platform the police department would realize a discount price for the product they evaluated. This discount would be larger if the department contributed money to the evaluation.

In sharing the risk all the participants share the real costs. Over the years the one recurring criticism of the CPRC research program is the lack of financial participation of the police community. By sharing in the important development of police products through financial support this criticism will be laid to rest.

It is anticipated that costs of supporting the *“Technology Platforms”* could be shared with other government research and development programs. Technology development to meet the needs of the Canadian police community is one type of industrial development and should be of interest to industry/ development agencies. Government support of *“Technology Platforms”* would encourage industry to work with the entire Canadian police community.

## TECHNOLOGY PLATFORM NETWORK

To date the CPRC has worked through senior police managers, Chiefs and Deputy-Chiefs, in many Canadian police departments. Although this has been useful and productive in its own right, the next logical step, would be the establishment of points of contact within Canadian police departments which the CPRC could call upon on a daily basis. This contact could be an officer in the planning and research section. This would allow the CPRC project managers access to the operational areas of the respective departments. It is envisioned that as part of this refocusing that these "**Technology Platform**" co-ordinators would meet with project officers of the CPRC on an as needed basis. This would afford the CPRC the opportunity to learn about other operational concerns that technology might be able address.

In summary, **Technology Platforms** provide the following advantages:

- Encourages the development of new products and ideas for the police community.. .
- Through the iterative process between the police and the company a better product results.. .
- Supports Canadian industry by providing new product ideas that are needed immediately.. .
- Makes the police community aware of new technological developments.. .
- Assists Canadian industry in the marketing of any new police product...
- Gives Canadian industry the boost it needs to be more competitive.

**Technology Platforms** are a process that systematically looks at new ideas and products of interest to the police community. By establishing the platforms within the Canadian police community it is anticipated that with support of CPRC's partners, that technology will be made more accessible and affordable. By encouraging Canadian industry to participate the police will now have a place to turn, to get that unique product they need to do their job.



The nine Canadian police departments and the one American police department taking an active part in the evaluation of this CPRC developed product are:

Ottawa Police	York Regional Police
Winnipeg Police	Edmonton Police
London Police	Calgary Police
Ontario Provincial Police	Sûreté du Québec
Vancouver Police	Houston Police

The "*Watkin Vacuum Fingerprint Chamber*" was delivered to these police departments in July, 1992 with the evaluation reports to be sent to the CPRC in six months. This review will result in a better product for the police and the company manufacturing the product.

As a result of the "*Technology Platform*" program technology is transferred from research laboratory to industry and more importantly to the client the police community as the same time. As well the company will receive evaluations from the police community six months after the chambers are in the field suggesting operational improvements to be incorporated in the next version. The company as well receives marketing information that will assist in future sales of the chamber.

This *Technology Platform* project is a clear indication how government, industry, and the Canadian Police Community can partner together for the benefit and protection of Canadians.

## THE TECHNOLOGY PLATFORM PROCESS

There are three types of examples one might expect to process:

### 1) RESEARCH AND DEVELOPMENT IDEA

A Research and Development idea may be submitted by an individual or company to the CPRC. This idea would be sent (mailed or faxed) to the Technology Platform Assistant (TPA) in a number of police agencies. The TPA would obtain a written evaluation of the idea from within their agency, and send it back to the CPRC in Ottawa.

If there is insufficient interest, the file would be concluded. However, if there is sufficient interest in the idea, a project could be implemented. The CPRC would manage the project, and the resulting report from this research would be disseminated back to the Technology Platforms through the departments TPA.

#### EXAMPLE: Polygraph Technique Proposal

CPRC receives a proposal on the validity of the polygraph techniques taught at the Canadian Police College. Proposal sent to six police agencies via the TPA who will obtain written comments from their polygraphists.

The comments are returned to the CPRC. If enough interest is shown by the Technology Platforms, a project is set up, a project leader is appointed, a contract drafted, and left to do the proposed research. Once the project is complete, a report on results is published and made available to anyone who requests it. The research would be described in the CPRC annual report.

### 1) EVALUATION OF A NEW PROJECT

A TPA suggests that a new police product being introduced to the market is of much interest to his department. The CPRC would acquire several which would be distributed to the Technology Platform network for operational evaluation. The resultant evaluation reports would be returned to the CPRC who would amalgamate them into one CPRC evaluation report. This summary report would be shared with the TP Network through the TPAs as well as to the manufacturer. If the manufacturer acts on the evaluation results by improving the product, the improved product would be returned to the original evaluators through the TPA's.

#### EXAMPLE:

Product acquired from company for evaluation. Product(s) sent to police agencies interested in conducting evaluation. TPA's obtain written evaluation and forward to CPRC. CPRC shares summary of comments with company. Article prepared by CPRC for publication in Annual Report.

## TECHNOLOGY PLATFORM NETWORK

To date the CPRC has worked through senior police managers, Chiefs and Deputy-Chiefs, in many Canadian police departments. Although this has been useful and productive in its own right, the next logical step, would be the establishment of points of contact within Canadian police departments which the CPRC could call upon on a daily basis. This contact could be an officer in the planning and research section. This would allow the CPRC project managers access to the operational areas of the respective departments. It is envisioned that as part of this refocusing that these *“Technology Platform”* co-ordinators would meet with project officers of the CPRC on an as needed basis. This would afford the CPRC the opportunity to learn about other operational concerns that technology might be able address.

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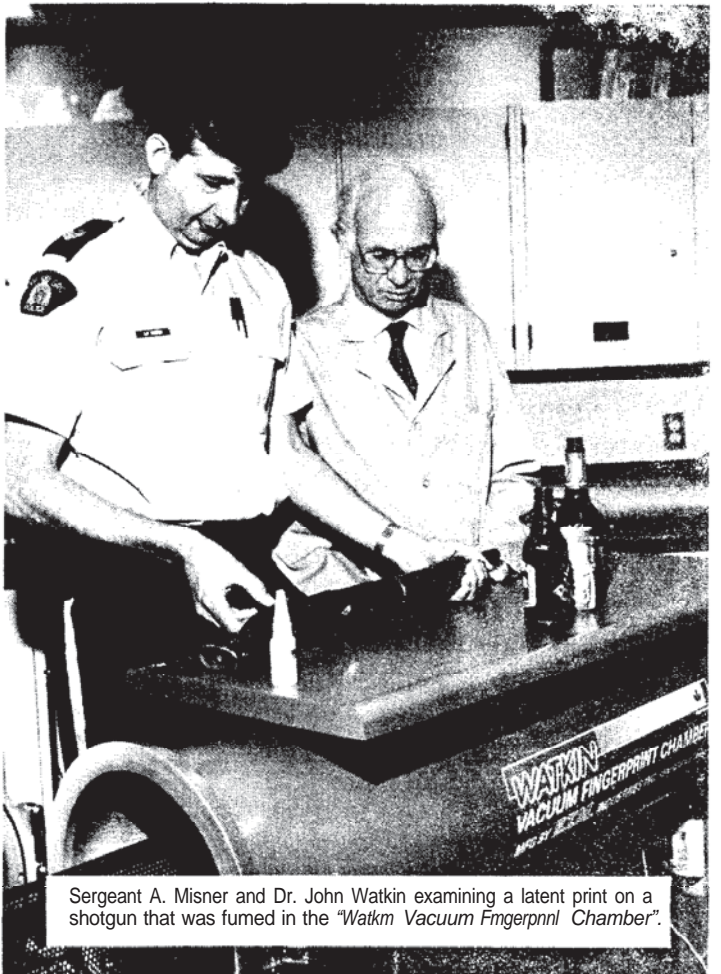
Dr. J. E. Watkin placing small tart container containing cyanoacrylate into chamber that contains as an exhibit a green plastic garbage bag.



A portion of the plastic bag that has been fumed in the chamber, dyed with a special fluorescent fingerprint dye revealing the palm and fingerprints of a right hand.



An enlarged fingerprint indicating the high level of details including ridges and skin pore pattern on the ridges of the fingerprint.



Sergeant A. Misner and Dr. John Watkin examining a latent print on a shotgun that was fumed in the "Watkin Vacuum Fingerprint Chamber".

3) A NEW PROTO-TYPE DEVELOPED BY THE CPRC FROM APPLIED RESEARCH -

This would be handled much in the same way as the “**Watkin Vacuum Fingerprint Chamber**” that was discussed earlier in this report. The CPRC would act as the “Technology Broker” by putting together a project in terms of project plan, funding and management.

From the initial prototype several preproduction prototypes would be produced and sold to the Technology Platforms at a reduced price. CPRC would seek further funding from other sources such as the CACP Research Foundation, NRC’s Industrial Research Assistance Program or other programs to fund the Technology Platform project.

Units would be sent out on a trial basis for a prescribed time period. The participating TP members would send an evaluation report to the CPRC which would again be amalgamated into one report that the CPRC would publish and make note of in the annual report.

## **DUTIES AND EXPECTATIONS OF TPA'S**

receive project proposals from CPRC or generate a TP proposal and send to the CPRC.

obtain evaluation of idea/proposal within your department

return evaluation to CPRC

inform CPRC of any product related research that might be of interest to other police departments. These would be sent to CPRC and published and disseminated on the department's behalf.

keep the department's executive (Chief/Deputy Chief, etc.) apprised of Technology Platform activities.

## **DUTIES AND EXPECTATIONS OF CPRC**

provide assistance and guidance to TPA's by meeting with them on an annual basis.

provide evaluation criteria guidelines for Technology Platform projects.

provide research proposals for their operational evaluation.

provide new equipment for evaluation purposes.

act as a point of contact for any questions of a technological nature.

## **CONCLUSION**

As stated earlier, Technology Platforms provide the following advantages:

- Encourages the development of new products and ideas for the police community..
- Through the iterative process, between the police and the company a better product results. . .
- Supports Canadian industry by providing new product ideas that are needed immediately. . .
- Makes the police community aware of new technological developments...
- Assists Canadian industry in the marketing of any new police product...
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Technology Platforms are a process that systematically looks at new ideas and products of interest to the police community. By establishing the platforms within the Canadian police community it is anticipated that with support of CPRC's partners, that technology will be made more accessible and affordable. By encouraging Canadian industry to participate the police will now have a place to turn, to get that unique product they need to do their job.

Want to participate as a CPRC "*Technology Platform*"? Please contact:

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