# THE IMPACT OF AUTOMATED LANGUAGE TRANSLATORS ON PATROL SERVICES IN THE FUTURE

Article

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By

Lieutenant Colin Murphy
Orange County Sheriff's Department

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One of the most critical issues facing law enforcement agencies in America is the ability for their personnel to communicate with non-English speaking people. In an attempt to provide efficient and timely police services to non-English customers law enforcement agencies have initiated various programs. The most common reaction has been to provide more bilingual officers and subscribe to telephonic language line services. Only until recently has technology provided a possible answer by developing Voice Response Translators.

Recent census surveys revealed that the demographics of most America urban cities is drastically moving toward non-English speaking people. The National Institute of Justice's Technology Program Advisory Council declared at a 1993 council meeting that instant language translation as one of the six "immediate" law enforcement technology priorities.[1] With the rate of non-English speaking residents rising and the lack of bilingual personnel, the need for improvements in interpretation technology is vital. Law enforcement field personnel are often confronted with situations that require instant and legible translation ability. In some cases, a delay in translation could mean life or death.

Traditionally, most law enforcement agencies have attempted to deal with the language barrier issue by utilizing bilingual personnel as interpreters. Success with interpreter is limited since many agencies lack sufficient bilingual employees and the extensive range of languages and dialects can be overwhelming.

Until recently, automation and technology for language translation has been limited to telephonic phone interpreters. Some agencies subscribe to telephonic language line services such as AT&T Language Line Services. These services provide over-the-

phone interpretation and document translation services in more than 140 languages. Interpreters are normally available twenty-four hours a day.[2] The services are utilized by public safety dispatch centers and when convenient officers can use the service in the field by using a telephone. Language line services have their drawbacks. First is the cost; most language services charge a minimum monthly subscription rate plus each individual interpretation is billed per minute. Such services may not be cost efficient, especially for smaller agencies. Secondly, access to some languages is not immediate; many infrequently-used languages may have extended connection times. Finally, the service depends on access to a telephone. Law enforcement personnel in the field do not always have convenience or availability of telephone access.

Recently, some technology companies have been experimenting with devices to assist language translations in the field. Technology has tried for centuries to provide some means of universal translation, typically for soldiers and statesmen, with poor to miserable results. Early methods were restricted to print and paper based methods on the idea of book-based translation. The development of microelectronics and digital computers following World War II provided some hope of improving on print-based translation systems. Early attempts, using highly talented linguists, attempted to mechanize their knowledge of how humans process speech into computer systems. These systems tried to recognize phonemes, parcels of speech such as consonants and vowels peculiar to each language, and then assemble them into words and words into sentences using contextual analysis, much as humans do. The results were systems limited to large computer operating frames, and personal devices were limited based upon background noise, miniaturization and the overall accuracy.

Recent advancements have concentrated on the problems of speech recognition, translation and the design of a practical device to market. One such company is Integrated Wave Technologies, Inc. who developed a hand held voice recognition device that focuses on the use of actual word/pattern recognition instead of the phonemes previously utilized by mainstream systems.[3] The result of their research was a small personal digital assistant (PDA) sized unit, low power consumption with a five-megahertz processor complete with a special microphone that is designed to minimize background noise. The device contains a large memory that provides plenty of room for the various words to form phrases. The system can store up to 500 phrases in each of 40 dialects. A phrase such as, "what is your name?" can be translated quickly into requested language. The customer receives a pleasant human spoken phrase, not an automated computerized voice.

Prototypes have been field tested by police agencies in a few American cities and military units in foreign military zones. Initial feedback was positive, users found the immediate translation access impressive and recognized the benefits of the device. The personnel assigned to the field study commented that the translation process was reasonably effortless and speedy. Police commanders commented that the technology was an excellent tool for the personnel in the field for basic translation, but did not replace the role of human interpreter.

Some language translators formats have focused mainly on the software dedicated to the task of large vocabulary speech to text dictation on desktop computers. The technically poor performance of this software, combined with the advent of widespread Internet and high speed wireless phone services, have led some language translator

companies to look at other options. Some are in development stages of large-scale recognition centers and to miniaturized speech recognition for cellular phones and personal digital assistants. This would remove the translation process from a stand-alone device to a centralized center where mainframes would translate via wireless communications devices such as satellites and cellular phone.

Picture the future: Deputy Smith starts his patrol shift and is issued a Voice Response Translator. The device is clipped to his utility belt, turned on, formatted to his voice and he jumps into his police cruiser. During the course of his shift, Deputy Smith encounters five different people, each speaking a different language. He is able to use the device to provide basis language phrases with the subjects and provide them with satisfactory police services in a timely and professional manner. With the use of a language translator device, he was not delayed by waiting for an interpreter and each client is satisfied with the service.

Voice Response Translators technology is relatively new and still in the early development phases. Once the technology is perfected and an efficient operating format is developed, it could have a significant impact on law enforcement agencies. Projected cost per unit is approximately $1,000, not much if you compare it to the $5000 price for the portable police radio they carry on their belts.[4] Improvements in miniaturization and lower cost could find law enforcement agencies eventually issuing devices to every personnel in the field. Simple everyday conversations could become a common scenario in the future. Obviously, language translators should only be viewed as a supplemental tool to assist with basic law enforcements tasks. The device will not replace the role of human interpreter and the need for one on one personal conversation. Such devices would

not only assist officers in their daily duties but also improve law enforcement relations with the non-English speaking people community.

Endnotes

[1] McCune, Tim, "Voice Response Translators" Integrated Wave Technologies, Inc. Internet. http://www.i-w-t.com

[2] Company Overview." Language Line Services . Internet. http://www.languageline.com/company Accessed: August 3, 2001

[3] Gresdah, John D., "The Babel Dilemma.", The New York Times, (July 30, 2000).

[4] McCune, Tim, "Voice Response Translators" Integrated Wave Technologies, Inc. Internet. http://www.i-w-t.com

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