



CHIEF'S FILE CABINET

Ronny J. Coleman

Toys or Technology?

A Battalion Chief I worked with once told me that he could go down to the hardware store and buy a shovel for a certain amount of money. However, if he contacted a fire protection vendor and bought that same shovel, especially if it had a red handle he would pay a lot more for it. The concept was that the tools we use in the fire service often have special price tags associated with them because they just don't seem to work very well for anybody else.

Now maybe that shovel wasn't a very good analogy but how about looking at some of the other tools we use in the fire service, for example, firefighting nozzles. You don't normally see your neighbor having a firefighting nozzle in his garage or being carried around in his trunk. We do have a significant amount of technology that seems to be drastically different from civilian counterparts and sometimes we pay a high price for that.

I have often heard those who are cynical about the fire service referring to many of the tools that we have by calling them "toys". Are they or aren't they? A toy is something that we buy basically for purposes of entertainment. Technology we are usually purchasing because it has to meet a specific need for us to handle a specific type of an emergency.

In comparison to toys versus technology I was talking to a very high skilled mechanic one day. On his wall he had some of the most sophisticated instruments I have ever seen in a mechanics garage. He also had the widest number of tools I have ever seen in anybody's individual tool inventory. When I asked him why he had so many different tools he answered simply; "I always have the right tool for the right job."

I believe that many times we are faced with an idea of adopting a technology that has toy like qualities because there has simply not been enough research and development that has gone into the technology before it is brought to our attention. In my career I have seen a wide variety of technologies being advocated for us that have fallen by the wayside very quickly because they couldn't resolve the practical aspects. For example, how many of your recall the "nozzle pump operator"?

The nozzle pump operator was an attempt to create a radio link between the nozzle operator on a fire scene and the pump panel there by eliminating the need for the pump operator.

How about the flying platform that was recommended for use to either bring firefighters up to the floors on a high rise building or result in the capacity to evacuate large numbers of people of high rise buildings. Have you seen a lot of those in fire stations recently?



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In our business we have a tendency to resist technology until it is forced upon us. I can still recall when my fire department was the only one that had a fax machine in the entire county. I can recall a point in time in which computers were not only notably absent in fire stations but one that was located in a fire station had a sign on it “do not operate”. Technology is certainly a double-headed dragon in the context of the fire community and yet technology is increasing at significantly rapid rates all around us.

There is a clue there!

Let me go back to a real basic item. Where did we get the pike poles from? Was there somebody who woke up some morning in a fire station and decided that we needed to go out and “invent” the pike poles? I don't think so. Actually we adopted it from any number of other tools that had a similar size and shape. One can make an argument that the first pike poles are were boat hooks. One might also make an argument that pike poles came from poles used to maneuver lumber when it was floating on a mill pond.

In any case, if technology is accepted in society it will eventually morph into something we in the fire community can embrace. The degree to which we understand that principle may allow us to stop looking for specialty answers in the fire service and start by giving us solutions that a community in its evolution has already adopted and implemented.

From my perspective anytime a product or service is being proposed for the fire service and it is made clear that the technology is for us and for us alone I almost always begin to be concerned. What makes technology easy to embrace is if it is related to its first cousin that is owned by the police department its second cousin that is used by somebody else down the street in a business environment and is not unrelated to its fourth cousin that may be readily available in the tool kit of some homeowner.

By this I am suggesting that we wish to see more innovation and creativity in the adaptation of technology we should be paying more attention to how technology is evolving to solve problems in our communities. I happen to be a big fan of reading Popular Science and Popular Mechanics. I often have noted things that have appeared in that magazine that five or six or even ten years later has emerged at a fire show as if somebody had just invented it last week.

Let me give you an overly simplistic example. How many of us on the fire service have been required to estimate the length of hose that is going to be required to make a hoselay? Hands up! Almost, everybody. Yet, there is a very simple tool that is available that is an optical laser that within micro seconds can determine the exact distance to be traversed by a construction worker. Could this technology be adapted for the fire service? Should this technology be adapted for the fire service?

Some of our most successful adaptations have emerged from the space industry. For example, nomex



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and gortex were invented for the space race, not the fire service.

What I am suggesting in this column is not that we give up inventing new things for the fire service but rather we start looking for as many ways possible to foreshorten the period of time between when a technology is adapted by a society and when we find the opportunity to integrate with firefighting operations and procedures. There is no scientific research to back up this statement but I formed the conclusion that a period of adaptation for the fire service is anywhere between five to ten years for low cost technology and ten to twenty years for high cost technology.

Going back and using my example of the flying platform if there was an actual application for those flying platforms that met some other need in society it wouldn't be long before the local fire department would probably have one in their inventory.

Over my years of sitting in a fire chief's office I have had more than my fair share of individuals come in and propose a solution that, according to them "I couldn't refuse." But I did. By that admission I am being somewhat cynical because their solution was so specific that the start up and research cost resulted in it never becoming a reality. I have seen proposed solutions to firefighting technology in which the inventor almost always starts off by saying if I can just get a million dollars for the startup cost this thing is going to solve your problem. In the first place who has a million dollars to spare? In the second place if it is really that good why isn't somebody else already sponsoring it.

In the final analysis, I don't want to give you the impression that technology and toys is the same thing. What we have to be very careful about is advocating and/or looking for solutions that the cost factors are way out of our price range and that even if we can justify it they soon become white elephants sitting on the shelf.

Technology to be acceptable by the fire community has to be tested to be incredibly reliable and it has to be reasonable in cost so that it contains wide spread distributions in the fire community. Failing to pass either one of these tests means that the technology is vulnerable.

In the meantime we will continually try to look for solutions. Some of them we may find on a vendor floor at a fire meeting but more often than not the solution are found down at the corner hardware shop or in the fertile mind of an entrepreneur who is trying to take a civilian application and apply it to the fire service. For example how many of you realize that many of our rescue tools today are based simply upon the hydraulic actuator that was brought out of the aircraft industry? If you don't know that, you are missing step one of adapting technology. We can avoid the toy trap and be on way to be a technology detective by paying better attention to what is going on in the world of business and industry.