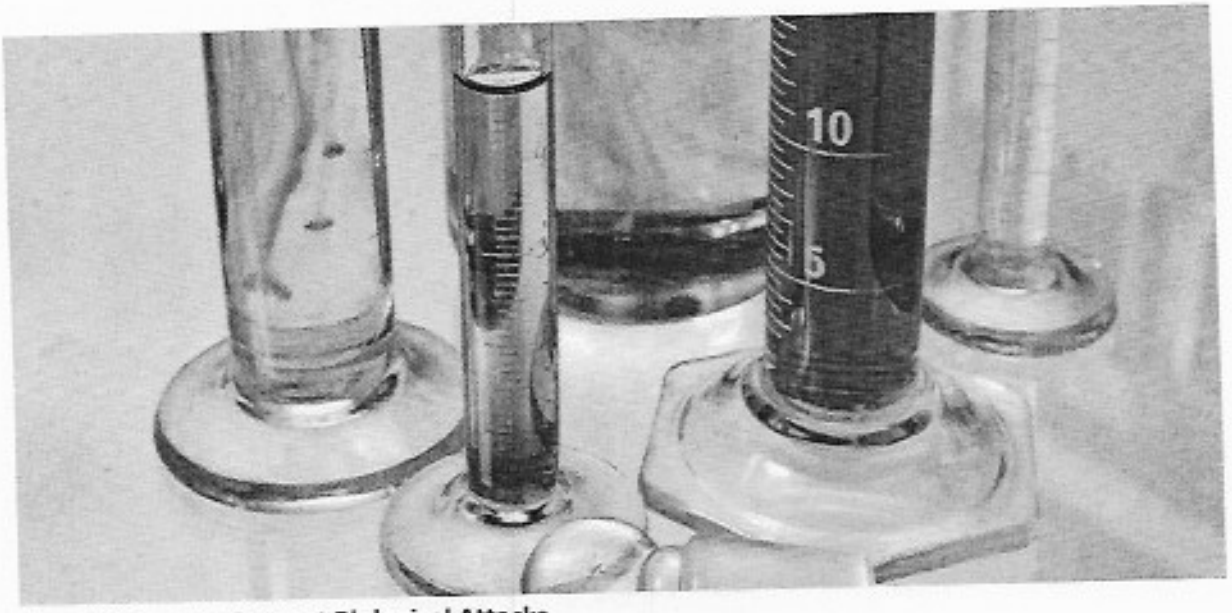
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New Software to Prevent Biological Attacks

Feb 1, 2018

This post is also available in: עברית (Hebrew)

US Federal research facilities rely on internet-connected devices to automate many basic building functions like ventilation, heating and security, as well as more hazardous processes like decontaminating equipment and preventing lethal microbes from escaping the lab. Hackers could potentially exploit these IoT devices to take control of building operations, but the DHS Science and Technology Directorate is investing in software that smothers attacks before they start.

The US Homeland Security Department is testing new software to protect government laboratories from cyberattacks that could potentially release dangerous pathogens into the environment.

Developed by Red Balloon Security, "Symbiote Embedded Defense" technology injects software into each device's binary operating system and constantly analyzes the code to prevent rogue commands from executing. Because the technology doesn't rely on a particular operating system, it works for every single embedded device.

Homeland Security awarded the company a $1 million contract to test the software at the agency's Plum Island Animal Disease Center, S&T Chief of Media Relations John Verrico told nextgov.com. Researchers at the facilities work with dangerous microbes like SARS, West Nile virus and yellow fever, meaning even a small attack on building operations could have enormous consequences.

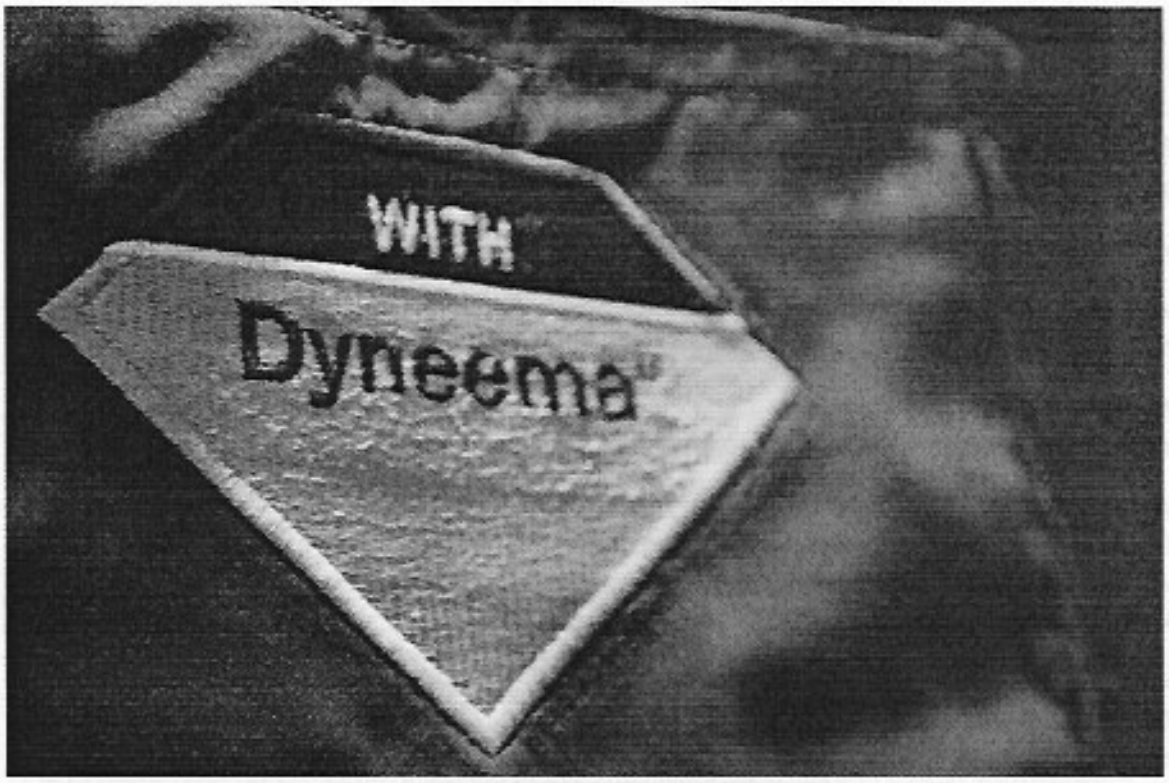
Assailants can cause the containment to breach, can cause damage to the people inside and release dangerous pathogens outside the facility by just manipulating the small embedded computers that control the building.

Building control systems at government labs and many production facilities run mostly on legacy software, which makes them particularly susceptible to an attack. Because the Symbiote software integrates directly into the operating system and detects any unauthorized changes to the code, it's able to lock down most outdated technology.

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DSM Creates Force Multiplier Technology To Provide Officers With Better Ballistic Protection

By Scott Burton



DSM Dyneema's efforts in the creation of the Dyneema Force Multiplier Technology have led the World Textile Information Network (or WTiN) to award the company with three awards:

- Launch of the Year
- Most Innovative Large Company
- Best Innovation – Industrial Textiles

After a 30-month development period, the Force Multiplier Technology was released in 2013. And, since its introduction, it can be found in a significant number of officers' vests. Along with its three awards, it was presented in award from the Safe America Foundation – 2014 WorldSafe Safety Product Innovation Award.

People who use vests with this technology understand why DSM has been given recognition with these awards.

What Is Force Multiplier Technology?

Most people under what "force multiplication" means when it comes to law enforcement. – do more with less. This generally seen with budget talks and getting some type of gadget that gives officers important information while in the field.

Mixing the technology with ballistic protection may seem a little weird but it actually makes sense. This is especially true for Shitij Chabba, DSM Dyneema's Global Business Segment director, who felt it was suitable. Chabba said the force multiplier is a factor that boosts an item's effectiveness.

There are a number of complaints being made about body armor:

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- Discomfort
- Hot
- Bulky
- Heavy

If officers were given a choice, they would not wear the vest. However, there are a number of solutions available to ease the issues.

3-In-1: Dyneema Begins Development On Force Multiplier Technology To Use In Ballistic Protection

Chabba said the company began development to come up with a technology that allowed for light, comfortable body armor without giving up any ballistic protection.

Now, the type of thread design being used is going to affect the weight of plates and body armor. Determining how the thread is laid in production plays a huge part.

Chabba said the initial results had him tell the engineers to reshoot the pack because the numbers and performance levels were high. He said once done, they all agreed the product was going to be special. He said they saw the benefits and how it would help law enforcement on the street and make them comfortable on the job.

This was no easy feat with the present platform. Scientists with DSM Dyneema needed to come up with three innovations into one product. Researchers started with a new polymer. From it, they came up with "an ultra-strong" fiber. The company makes the claim that Dyneema is the world's strongest fiber. And, their goal was to make it even stronger.

They then arranged the fiber into a unidirectional UD sheet. Chabba said the scientists developed the UD in a way that provides officers with high protection, and ensuring them flexibility and comfort when wearing the protection.

Chabba compared UD to spaghetti – rather than it being noodles, it's the company's yarn. But, it's not a disorganised mess, there are hundreds of thousands of yarn noodles spread flat, which then cross-laid with every fiber being perpendicular to one another. This process is what makes up the sheet.

Force Multiplier Technology is 30 percent lighter

The process in the platform comes up with a package that's about 30 percent lighter than other solutions. And, DSM adds their own products to this list.

On their website is video that shows how flexible Force Multiplier Technology platform. While flexible may not be a good choice of words, it's an obvious benefit to officers who want fit and comfort along with safety.

DSM also has ballistic testing to meet NIJ 3A standards with rounds for .357 Magnum JSP, .357 SIG FMJ FN, Winchester Ranger SXT, RCC frag testing , etc.

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