
New weapons for cyber warfare. The CHAMP project

(Translated from the original Italian)

Cyper warfare scenario is rapidly changing, governments all around the world are investing to increase their [cyber capabilities](#) and designing new tools to adopt in cyberspace to face with opponents in what is considered the [fifth domain of warfare](#).

The warfare scenario is deeply changed, new actors fight in the cyberspace an asymmetric war with rules of engagement completely distorted, the intent is to destroy and interfere with enemy systems in critical infrastructures.

Principal defense companies are developing new solutions to propose to governments and intelligence agencies, recently Boeing firm has successfully tested a new generation of missile which is able to attack the computer systems of a country without causing loss of life.

The project is known with the acronym of CHAMP (Counter-electronics High-powered Microwave Advanced Missile Project) and uses the microwaves to permanently knock out computers in a specific area. The project is born in US military environment, specifically developed by Air Force Research Laboratory, and it explores the possibility to design a directed-energy weapon capable of destroying and interfering with adversary's electronic systems such as radar systems, telecommunication systems, computer systems and power distribution systems. While the project is started in military and is led by Boeing the technology comes from a small company called Ktech, acquired by Raytheon bought last year, specialized in the providing of mi-

crowave generators to generate EMP able to knock out electronics equipments.

The concept behind directed-energy weapon (DEW) is the transmission of energy, typically electromagnetic radiation or electromagnetic radiation, against a target for a desired effect.

Keith Coleman, CHAMP program manager for Boeing Phantom Works enthusiastic said:

«This technology marks a new era in modern-day warfare,» «We hit every target we wanted to. Today we made science fiction into science fact.»

«In the near future, this technology may be used to render an enemy's electronic and data systems useless even before the first troops or aircraft arrive.»

The rocket was successfully tested in October at the [Utah Test and Training Range](#), during the exertion it discharged a burst of High Power Microwaves against the target site and brought down the compound's entire spectrum of electronic systems without causing any other damage, the missile was launched from a B-52 heavy bomber.

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How does it works and how much cost it?

Despite Boeing has made public the [test](#) and the obtained results it hasn't provided technical information on the new generation of weapon. Many experts believe the rocket is equipped with an electronic pulse cannon which is able to cause voltage surges in target electronic destroying it.

Military experts are sure that we are facing with a new generation of [cyber weapons](#) for which is still much to be studied, similar devices must be analyzed with attention especially for the real effects they could have on the environment, let's think for example to the effect of evaporation of target material.

Another important question is related high power consumption necessary to generate the beam of energy, existing methods of for conducting and transferring energy against a targets appears still inadequate to produce a convenient hand-held weapon.

Professor Trevor Taylor from the Royal United Services Institute told the Mail on Sunday newspaper:

«The historical record shows that important technologies developed in one country are developed elsewhere within a relatively short period

- look what happened with regard to the USSR and nuclear weapons.»

I find the warning of Professor extremely timely and enlightening, the scenario of warfare is changing rapidly and soon a multitude of governments will have similar weapons for which is required an appropriate [defense strategy](#).

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<http://securityaffairs.co/wordpress/10783/cyber-warfare-2/new-weapons-for-cyber-warfare-the-champ-project.html>

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