**Implementation Strategy for Cybersecurity (Council for Scientific and Industrial Research (CSIR))**
Ms Joey JANSEN VAN VUUREN

**Abstract**

An efficient cybersecurity policy relies on a holistic approach; there is a need for a partnership between business, government and civil society. The presentation explains a cybersecurity policy implementation framework that will support the process of the implementation of cybersecurity in African countries for effective control and protection the countries’ cyber infrastructure and netizens. Governance structures were used in the development of the implementation framework for Africa with national security in mind. The presentation includes proposed implementation strategies, structures and sustainment measures for cybersecurity in an African country so that national cybersecurity is regarded as an integral part of national security. A proposed structure for cybersecurity in South Africa and for an African country is also included.

**Extended Abstract**

National governments have the responsibility to provide, regulate and maintain national security; cybersecurity is an important aspect of national security and the safekeeping of a nation's constituency and resources, which includes both cybersecurity and human security for their citizens. Although all countries are vulnerable to cybercrime, African countries are particularly vulnerable to cybercrimes due to the exponential growth in broadband access, the use of wireless technologies and infrastructure, high levels of computer illiteracy and ineffectual or insufficient legislation to deal with cyberattacks and threats ((Jansen van Vuuren, Phahlamohlaka, & Brazzoli, 2010). The development, implementation and review of national cybersecurity policies have become tasks of utmost importance for all governments. The urgent need to address national cybersecurity protection is driven by growing cybersecurity challenges and threats as well as dependence on technology around the globe. Any cybersecurity policy should include strategies and standards to enable and sustain cybersecurity. An efficient cybersecurity policy relies on a holistic approach; there is a need for a partnership between business, government and civil society (Ghernouti-Helie, 2010); (Phahlamohlaka, Jansen van Vuuren, & Coetzee, 2011)).

The presentation outlines a cybersecurity policy implementation framework that supports the process of implementation of cybersecurity in African countries for effective control and protection of these countries’ cyber infrastructure and netizens. The Extended Cybersecurity Toolkit (XCyberST) and governance structures (Jansen van Vuuren, Leenen, Phahlamohlaka, & Zaaiman, 2013) were used in the development of the implementation framework for Africa with national security in mind. This framework includes the elements of the cybersecurity implementation framework for Jordan proposed by Otoom (Otoom & Atoum, 2012) and the guidelines for the implementation of national cybersecurity strategies by Ghernouti-Helie (2010). The presentation includes proposed implementation strategies, structures and sustainment measures for cybersecurity in an African country so that national cybersecurity is regarded as an integral part of national security. A proposed structure for cybersecurity in South Africa and for an African country is also included (Jansen van Vuuren J.C., 2016).

As cybersecurity resilience becomes an imperative, factors that need to be taken into consideration for the implementation of cybersecurity in Africa to ensure resilience are also considered. Guidelines are given on the procedures to follow to measure the success of the implementation of the cybersecurity policies and the criteria necessary to evaluate the success of such an implementation. One of the sustainment measures, namely the establishment of a Cybersecurity Centre of Innovation, will be discussed in more detail (Jansen van Vuuren J.C., 2016).

Ghernouti-Helie, S. (2010). *A national strategy for an effective cybersecurity approach and culture*. Paper presented at the 2010 International Conference on Availability, Reliability and Security, Krakow, Poland.

Jansen van Vuuren J.C. (2016). *Methodology and Model to Establish Cybersecurity for National Security in Africa using South Africa as a Case Study* (Doctor of Philosophy (PhD) in Business Management), University of Venda, Thohoyandou.

Jansen van Vuuren, J. C., Leenen, L., Phahlamohlaka, J., & Zaaiman, J. J. (2013). *Development of a South African cybersecurity policy implementation framework.* Paper presented at the 8th International Conference on Information Warfare and Security, Denver, Colorado, USA.

Jansen van Vuuren, J. C., Phahlamohlaka, J., & Brazzoli, M. (2010). Impact of the increase in broadband access on South African national security and the average citizen. *The Journal of Information Warfare, 9*(3), 1-13.

Otoom, A., & Atoum, I. (2012). An Implementation Framework (IF) For the. National Information Assurance and Cyber. Security Strategy (NIACSS) of Jordan. *IAJIT*. [www.ccis2k.org/iajit/PDF/vol.10,no.4/4842-10.pdf](http://www.ccis2k.org/iajit/PDF/vol.10%2Cno.4/4842-10.pdf) Retrieved from [www.ccis2k.org/iajit/PDF/vol.10,no.4/4842-10.pdf](http://www.ccis2k.org/iajit/PDF/vol.10%2Cno.4/4842-10.pdf)

Phahlamohlaka, J., Jansen van Vuuren, J. C., & Coetzee, A. J. (2011, May 2011). *Cyber security awareness toolkit for national security: an approach to South Africa's cyber security policy implementation.* Paper presented at the Southern African Cyber Security Awareness Workshop, Gaberone Botswana.

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