OTTAWA 2023
64TH WORLD STATISTICS CONGRESS

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IPS Paper

Emerging Technologies' Breadcrumbs: Leveraging Statistics to Detect Emerging Technologies and Charting a Path for a Safe and Secure Future

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Submission ID: 1375

Reference Number: 1375

Presentation File

abstracts/ottawa-2023_b2c275db814fd03c8ec5f285385dd6f2.pdf

Files/Uploads

IPS 306 AAUGER Emerging Technologies Breadcrumbs_final

Brief Description

The identification and analysis of emerging technologies is key to ensuring an international strategic advantage and national security.

Identifying and analyzing weak signals of emerging technologies is important to challenge and review the robustness and resilience of strategic plans and investments in the light of new developments.

Emerging technologies need to be assessed for their potential impact – positive or negative – on current and future Defence and National Security operations through a balanced foresight approach.

A case study of the foresight approach used at Defence Research and Development Canada (DRDC) is presented.

Evidence and the scientific method are core to weak signal detection at DRDC.

Following a review of the R&D Momentum statistical tool, the paper presents the Foresight to Action Framework (FAF), which enables the use of insights developed from weak signals to decision making and action.

Continuous learning is key to growth and innovation, and serves as a key component to perpetuate future evolution of DRDC's foresight practice and more broadly of the defence, safety and security domains.

Abstract

The identification and analysis of emerging technologies is key to ensuring an international strategic advantage and national security. Identifying and analyzing weak signals of emerging technologies is important to challenge and review the robustness and resilience of strategic plans and investments in the light of new developments. Emerging technologies need to be assessed for their potential impact – positive or negative – on current and future Defence and National Security operations through a balanced foresight approach. A case study of the foresight approach used at Defence Research and Development Canada (DRDC) is presented. Evidence and the scientific method are core to weak signal detection at DRDC. Following a review of the R&D Momentum statistical tool, the paper presents the Foresight to Action Framework (FAF), which enables the use of insights developed from weak signals to decision making and action. Continuous learning is key to growth and innovation, and serves as a key component to perpetuate future evolution of DRDC's foresight practice and more broadly of the defence, safety and security domains.