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Type: **Panelist (Panel Session)**

Visualization of Data for Enhanced Safeguards Communication and Analysis

Visualization of complex and large data sets has emerged as a powerful mechanism for both improving internal analyses and communicating findings to stakeholders. In support of the Symposium theme of leveraging technical advances for safeguards applications, in particular the analysis, integration and visualization of multi-source data, this paper examines the analytical and communicative benefits of using data visualization tools. The goal of this paper is to explore ways to make the data already available to the Department and to Member States more meaningful, ultimately to improve the effectiveness, efficiency, and understanding of the international safeguards system.

This paper will explore and demonstrate the value-added potential of visualizing trends in data over time using Tableau software and publicly available and simulated safeguards information similar to the types of data that are available to Member States in the annual Safeguards Implementation Report (SIR), and by State Evaluation Groups (SEGs).

Visualization of verification activities can help SEGs evaluate how effectively safeguards measures are meeting technical objectives along different acquisition paths. Furthermore, visualization may aid in examining trends in nuclear material holdings at different locations in the state, variances in sampling results, and other data most typically represented numerically.

The SIR primarily presents data to Member States in numerical format. However, the specific number is usually less meaningful than seeing that number in context. For example, the number of inspections in a country in a given year is more meaningful when compared with the numbers of inspections in other countries, or the trend in inspections over time. Visualizing simulated SIR data in Tableau will show how the data already released to Member States by the IAEA can better communicate safeguards activities.

Which "Key Question" does your Abstract address?

TEC2.1

Which alternative "Key Question" does your Abstract address? (if any)

TEC2.6

Topics

TEC2

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