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## Detection of undeclared nuclear material and activities using the Collaborative Analysis Platform

The challenges facing Safeguards implementation are increasing worldwide. There are new facilities under construction, technological advancements in the nuclear fuel cycle (NFC), and more nuclear material entering Safeguards every year. One of the primary missions of the IAEA Department of Safeguards is to identify undeclared nuclear material and nuclear facilities by comparing all available information against Member State declarations. This paper describes a successful, operationally tested, system of technologies and techniques that have been developed by the Department to significantly enhance its capabilities in executing this mission. This system enables analysis of hundreds of millions of items of information of many types from many sources at large scale in such a way that State Evaluation Groups (SEGs) are able to compare the potential technical indications of NFC material and activity against the relevant State declarations. The Department has measured the improvement in analytic speed and comprehensiveness to be several orders of magnitude. This paper presents a simple workflow leveraging the Collaborative Analysis Platform (CAP) to find potentially undeclared nuclear fuel cycle activities.

### Which "Key Question" does your Abstract address?

TEC3.3

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

TEC3.7

### Topics

TEC3

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