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Joint Partnership –a New Software Development Paradigm

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A joint development partnership between Euratom and the IAEA was established in 2013 for the standard software iRAP (Integrated Review and Analysis Program), an automated analysis tool for Non-Destructive Analysis data. The application includes a database system which allows inspectors to perform an efficient, easy and quick review of huge amounts of safeguards relevant data especially in large facilities. iRAP (formerly know as CRISP) analyses measured data in a multi sensor system and compares the results with item movement declarations provided by the plant operator. A considerable number of evaluation algorithms are already integrated into the iRAP system. They are the core of the application and can be either developed in-house (e.g. Pu Mass Calculation) or integrated as a third party development into the system.

The licence agreement which provides the legal basis for the joint development shares Intellectual Property (IP) rights, costs for development, and combines features that are beneficial to both inspectorates. Instead of starting a new costly software development, the Agency can leverage already existing code and make smaller investments into tailoring the application to the needs of IAEA inspectors. Much of the system's integrity depends on the requirements gathered. A joint development partnership involves more users in the development life cycle; more users will define their requirements. This ensures that the system developed satisfies the actual needs of safeguards inspectors of both organisations. A joint software development allows as well for an efficient use of financial and human resources.

Within the frame of the agreement, a Change Control Board (CCB) with members of both organisations has been established. The CCB meets regularly in order to bring developers, users and technicians together in the very early phase of a development cycle, to define the scope and requirements of projects, to avoid potential conflicts among different user groups and to review new releases. This enhances communication and relationship between inspectors and technical personnel of both organisations. A first release of iRAP is expected in July 2014. It will be handed over to a user group of selected IAEA inspectors who will be in charge of testing the software in compliance with IAEA requirements. Euratom is in charge of regression testing in order to determine if new faults have been introduced to existing functionalities of iRAP.

Country or International Organization

IAEA & Euratom

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