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# Semantic Technologies for Nuclear Knowledge Modelling and Applications

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The IAEA has been engaged in working with Member States to preserve and enhance nuclear knowledge, and in supporting wide dissemination of safety related technical and technological information enhancing nuclear safety. The knowledge organization systems (ontologies, taxonomies, thesauri, etc.) provide one of the means to model and structure a given knowledge domain. The significance of knowledge organization systems (KOS) has been greatly enhanced by the evolution of the semantic technologies, enabling machines to "understand" the concepts described in a KOS, and to use them in a variety of applications. Over recent years semantic technologies have emerged as efficient means to improve access to information and knowledge. The Semantic Web Standards play an important role in creating an infrastructure of interoperable data sources based on principles of Linked Data. The status of utilizing semantic technologies in the nuclear domain is shortly reviewed, noting that such technologies are in their early stage of adoption, and considering some aspects which are specific to nuclear knowledge management. Several areas are described where semantic technologies are already deployed, and other areas are indicated where applications based on semantic technologies will have a strong impact on nuclear knowledge management in the near future.

## Country or International Organization

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