



## Nuclear decommissioning: project management and leadership

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**Abstract.** Management and leadership for safety relate to managerial competencies necessary to develop, promote and sustain a safety culture and to set goals, lead others and manage knowledge and projects to enhance safety performance. The development of these competencies is needed to enrich and complement the predominant technical background and skills of engineers and/or managers involved in the nuclear sector and particularly in decommissioning and dismantling (D&D) projects.

The recent recognition of the importance of managing for safety led the International Atomic Energy Agency (IAEA) to develop formal safety requirements that are now implemented by its member states. This includes the need to develop training and education for beginning- and mid-career managers with nuclear safety responsibilities and, considering the time frame of D&D projects, for future generations of managers. Training and education challenges are acute in all Instrument for Nuclear Safety Cooperation (INSC) and European countries, where managers need to develop knowledge and comprehensive safety-related competencies to run the D&D projects of nuclear facilities in a context where the generational change of managers in the nuclear field is happening fast.

In 2016/2017 the IAEA and the European Commission (EC) developed a cooperative framework to jointly address a similar challenge related to operation and regulatory oversight of nuclear installations. The development of these projects was possible by funding from the European Union (EU) through its INSC instrument.

The first project, led by the IAEA in 2017, was the development of a pilot school for safety leadership at the University Côte d'Azur (UCA), France. Encouraged by this success, the agency has since then developed the syllabus into a 2-week programme, still based on experiential learning, which is offered to IAEA member states who wish to organise sessions for their managers (regulatory bodies or industry).

The second project, named ELSE, was operated by UCA and aimed to develop training to help managers acquire leadership for safety capabilities, which are key professional requirements in complex, high-risk and highly regulated sectors such as the nuclear sector. The originality of the ELSE project stemmed from its science-based approach, integrating the most recent findings of management and other social sciences. The dedicated ELSE training programme is composed of a massive online open course (MOOC), a 10 d of face-to-face training and an individually tutored project.

Based on the success of these experiences, the EU decided to prolong these actions in the field of nuclear D&D, leading to the start-up, in 2023, of the Decommissioning Management and Leadership for Safety Education (DMA LSE) project. This project has also been entrusted to UCA, in partnership with SKEMA Business School, the Karlsruhe Institute of Technology (KIT) and Jacques Repussard Conseil.

DMaLSE has two main objectives, namely to develop a science-based training programme for future D&D project managers and to extend the impact of the project through bachelor-degree-level on-site training for operators involved in D&D projects.

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