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## The added value working under ISO 9001 in nuclear fusion technology R&D at ENEA

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The ENEA Fusion Department (FSN) operates in the field of nuclear fusion under a Quality Management System (QMS) according to ISO 9001 since 2011. At the beginning this methodology applied in R&D activities of a Research Institution such as ENEA seemed to be far from the industrial reality according to an internal and external perspective. But now that the construction of ITER reactor became a reality for which the industry and the R&D activities are overlapping, the ISO 9001 approach is becoming a winning solution. Many ITER tenders require that applicants have a certified QMS. In addition to the higher potential to achieve success in these tenders, having a QMS produced in ENEA FSN positive results in terms of added value in planning, risk-based thinking, control services, document management, metrology, performance evaluation and continual improvement. These actions defined by appropriate procedures are useful to satisfy the customer, but also to improve the internal organization of work. The methods applied to obtain the sensitivity to the critical issues and to spread the culture of quality have been adapted to the unique sector of nuclear fusion technology (e.g. design and manufacture of specific components as the divertor HHF components or superconducting magnets, performance of experiments, etc.). The references for these methods are still the performance assessment through the monitoring, measurement, analysis and evaluation of processes and internal audits and the pursuing of continual improvement, but the indicators used for processes measurement are not those typical of a company in which most of the indicators are linked to the economic profit, but some more specific; the impact factor of research activities, the self-assessment efficiency, the continual training of the personnel, the management of resources for measurement, the assessment of the value of ENEA FSN activities by the analysis public press.

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