

The qPMO project: applying Quality principles and methodologies in Life Sciences research

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Quality principles and methodologies have long been ignored in Non Regulated Scientific Research, even though they have been widely used in industrial and business applications in recent decades, improving management and results as well as reducing costs. A groundbreaking project named Quality and Project Management OpenLab (qPMO) was implemented by a cluster of laboratories belonging to the Italian National Research Council (CNR) with the aim of defining efficient models for the application of Quality methodologies to the Life Sciences. For the first time, CNR researchers are working with Quality consultants to apply Quality methodologies to scientific research. Project management and team building techniques (e.g., decision matrix, project charter, debriefing, Plan-Do-Check-Act) were employed to rapidly define a project with four lines of research based on Quality methodologies. Among them, researchers chose to experiment with the definition of standards and guidelines for research activities, experiment optimization via Design of Experiment (DoE), management of a research lab via an ISO9001 Quality Management System, support to technology transfer via Failure Mode and Effect Analysis (FMEA). All of these aspects converge in a model of Total Quality Management OpenLab which is disseminated through a web platform specifically developed for this project. Further, the acquired habits of acting in organized teams, using group management tools and information technologies, supported the work of each group in their respective research line. The results show better use of time and project consistency: the project was set up in one month, and the four research lines accomplished their planned milestones in advance with respect to the initial timetable. Emphasis was also made on Quality training that created a common management and control culture and brought to researchers' attention tools and methodologies widely used in other fields. Each line of activity also brought innovative and promising Quality approaches to scientific research.