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An Innovative Platform Allowing Digitization of Operative Radioprotection Measurements and to Characterize NORM and TENORM

The periodic control of industrial infrastructures accumulating NORM increasingly demands methods for full traceability of components, instrumentation and measurements to improve quality management and operational safety.

The utilization of measurement systems and equipment from disparate sources, often unable to share information with one central database, have forced Operators to devise ad hoc management systems. These management systems are often based on complex and sometimes even incomplete or inaccurate logbook notations. The result is a complex procedure burdened by poor QA/QC and an increased likelihood of errors.

CAEN proposes a platform which relies on an innovative handheld instrument combining state-of-the-art radiation measurement capabilities with read/write UHF RFID tagging, integrating a color camera, audio recorder, GPS and UWB localization for both outdoor and indoor positioning. Taking advantage of this system D&D or radioprotection operators can easily characterize radioactive sources and start recording the digital information at the earliest stages of their activities. All the information can be then uploaded, safely stored and processed by a customizable database software framework.

All the digital information can be the retrieved in a second phase when contaminated tools or scrap material shall be collected and properly selected for the subsequent disposal. On-field operators can then execute promptly their tasks with dedicated, rugged and portable RFID readers that recognise autonomously the objects of the intervention and reduces the chance of operation mistakes.

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