

## **Use of XRF technique for multi approach metal sorting**

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Energy Dispersive X-Ray Fluorescence Analysis (ED-XRF) offers a quick and reliable elemental characterization of materials through the analysis of X-Ray radiation emitted by the sample when irradiated. The technique exploits semiconductor detectors for the detection of the emitted photons and for the measurement of their energy. The advent of thermoelectrically cooled silicon drift detectors has allowed a lowering of the costs, reduction of the size and ease of operation which has in turn opened and driven the exploitation of these detectors and the analytical technique for industrial applications.

The centre for Sensors and devices of Fondazione Bruno Kessler, is at the forefront in the development of silicon based semiconductor detectors including X-ray detectors for energy dispersive spectrometry. In the talk I will present the fundamentals of ED-XRF and the detection technology exploited and their application to materials sorting and the circular economy.