Radiological contamination identified through high-resolution ground-based mapping.

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Following the 2011 events at the Fukushima Daiichi Nuclear Power Plant in Japan, the use of highly mobile and portable radiation meters such as the Safecast platform allowed for the rapid accumulation of vast quantities of valuable data in the aftermath of the damaging incident. Work at the University of Bristol has led to the production of a similarly portable system, but with greater reaching applications within radioactive monitoring. Unlike the Geiger-Muller based platform of Safecast, the use of lightweight and interchangeable gamma-spectrometers enables the individual gamma-spectra at each point to be captured and subsequently interrogated. Already deployed within the affected Fukushima Prefecture region on Japan, this system is able to identify sub-meter regions with elevated activity and attribute them to specific contaminant species. In addition to responding to events featuring the release of radioactive material, such a system has also been successfully deployed within both Bristol and south-west England to accurately map and quantify naturally occurring radioactive material (NORM) as a result of former mining operations or the existence of radioactive ore minerals beneath the ground. Further applications of such a system include routine monitoring activities within nuclear licensed sites or forming part of the post operational clean-out of a site.