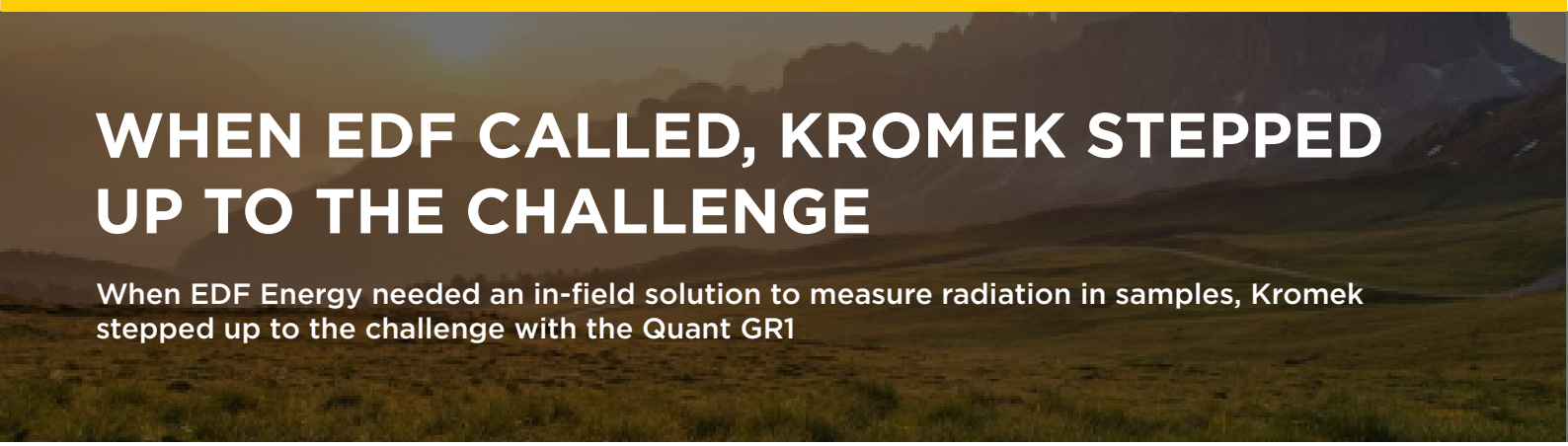

WHEN EDF CALLED, KROMEK STEPPED UP TO THE CHALLENGE

When EDF Energy needed an in-field solution to measure radiation in samples, Kromek stepped up to the challenge with the Quant GR1

Summary

Collaborating with EDF, Kromek developed the Quant GR1: a solution to emergency release monitoring. The portability and high resolution of the detector allows for rapid measurements of complex mixtures to be taken in real-time and quickly analysed right in the field from EDF's Environmental Survey vehicles.

Working in collaboration and partnership with customers has long been a cornerstone of how Kromek does business. Kromek and EDF Energy formed a partnership to solve one of the nuclear industry's intractable problems: how to quickly and accurately determine whether an area or material had become contaminated and, if so, with what. Any time saved in determining the nature and extent of an incident is crucial to the rapid implementation of vital response teams and recovery times. Analysis techniques within the industry, historically, could be time-consuming and involved taking samples to laboratories for analysis that could delay response times and further sampling.

EDF Energy required a system that offered high-performance radiation detection capabilities that provided fast and accurate measurement of potentially mixed sources of radiation in real-time while being small and robust enough to be easily transported and used in-field. Kromek and EDF Energy worked together to come up with a fast and accurate analytical tool that could easily be installed into a vehicle.

"As a business, EDF Energy is continuously investing in improving safety standards at all its sites and the development of the Quant GR1 has helped increase this capability"

WHEN EDF CALLED, KROMEK STEPPED UP TO THE CHALLENGE

The GR1 was the perfect choice for in-field radiation detection

The high-resolution GR1 can accurately measure, separate and identify the presence of individual sources of radiation within mixed samples, because the detector is small, lightweight and portable, and has no requirement for cooling, it is ideal for in-field measurement.

Utilising the GR1 CZT-based gamma spectrometer at its core, the system needed to be shielded from background radiation but still remain small enough to be transportable. Using a lead surround provided the necessary shielding.

The result was the Quant GR1, which provides accurate results within 10 to 20 minutes, allows large numbers of samples to be taken in a reduced period of time. The unit remains light and small enough to fit into the EDF Environmental Survey vehicle, or on a bench in a lab.

Tested and verified by Cavendish Nuclear

In-field testing and certification were undertaken by Cavendish Nuclear in conjunction with EDF Energy to verify the system's capability in meeting EDF Energy's Minimum Detectable Activity specifications, accurately detecting the low levels of radiation.

A fit for purpose software package was also designed in collaboration with EDF Energy. Current models of the Quant GR1 using Kromek's MultiSpect Analysis Gamma Spectroscopy software.

EDF Energy has successfully deployed the Quant GR1 in their environmental survey vehicles across the UK as part of their emergency arrangements.