

The Next Future is Not the Same as the Last Future – How to Protect Food Integrity in the 22nd Century

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ABSTRACT:

Climate change, war and increasing global geopolitical risks have rapidly changed the formerly settled global order, resulting in significant price and supply shocks across many key commodity groups. This comes at a time of increasing computer power, with Artificial Intelligence and enhanced High Performance Computing resources able to process vast quantities of data at previously unimaginable speeds.

The challenges faced in ensuring food integrity as we move through the 21st century are becoming ever more complex, with the tools made available to researchers, such as better analytical testing capabilities and computational resources being evenly matched by the rise of encrypted communication networks and 'deepfake' AI resources which can confuse consumers and attempt to defeat those organisations tasked with protecting consumers. Lessons learned from previous food integrity events, such as the United Kingdom's Horsemeat scandal are also being forgotten, further complicating efforts to protect consumers and secure critical resources.

This talk will look at how lessons learned and developments in analytical technologies in the past can best be leveraged to defend our food supply chains, and assess what gaps exist in both hardware, software and legislation, making suggestions for policy makers on what is needed to protect food integrity in the 22nd century.

Finally, the talk will introduce two key projects, RISC+ which looks at reimagining supply chains to provide enhanced security of supply to the UK market, and RASCAL, which looks at how cascading risks from supply chain shocks should be mapped and guarded against.

KEYWORDS:

AI, horizon scanning, supply chain mapping, digital twin, risk assessment, geopolitics