Environment and Agrifood
At a Glance
Welcome to Cranfield University

For 50 years, Cranfield has been contributing to enhancing natural capital and ensuring that global food systems are more resilient for the future. We believe that environmental problems can be alleviated through technological innovation and risk management.

We work with global and domestic agriculture and food companies, environmental agencies and governments to ensure that our research benefits all in society.

We provide:

- Transformational research
- Premier learning
- Impact and influence
Premier learning for professionals

Cranfield is:

- delivering courses accredited by professional institutions including the Royal Institution of Chartered Surveyors, Landscape Institute, the Institution of Agricultural Engineers, Chartered Institution of Water and Environmental Management and the Chartered Institution of Wastes Management.
- part of major doctoral training consortia including the NERC and BBSRC Soils Training and Research Studentships (STARS) and the ESRC and NERC Data Risk and Environmental Analytical Methods centre (DREAM).
- home to unparalleled near-industrial-scale facilities. These are combined with continual and substantive investment in our students, staff and infrastructure.

Our learners:

Over half of our Environment and Agrifood learners come from outside the UK, representing 30+ countries

- part-time (18%)
- full-time (82%)
- UK (36%)
- EU (39%)
- overseas (25%)

Cranfield is creating a dynamic community of senior practitioners engaged in high level debate through our Science for the Green Economy series

Our Alumni: 60k+

A professional network of

“IT would not be an exaggeration to say that my Cranfield MSc changed my life. The teaching staff gave me the confidence that even the most complex problems could be solved by breaking things down into their component parts.”

Garth Drury, Head of Global Regulatory and Government Affairs, Rotam, MSc 1993

“My PhD at Cranfield gave me the opportunity to work on a solution to a real-world problem with an industry focus, through which I developed a keen interest in the Agrifood sector.”

Dr Gemma Chope, Senior Scientist, Agro Discovery and Sustainability – Field and Postharvest Innovation, PepsiCo Corporate R&D, PhD 2007
Transformational research meeting the needs of business, government and wider society

Unique facilities include:

Big data visualisation suite
Tools to analyse 'big data', including unique environmental data resources, and satellite-derived land assessments.

National Reference Centre for Soils and World Soils Archive
The largest soil materials collection in Europe. Recognised as the UK’s definitive source of national soils information. Our World Soil Survey Archive (WOSSAC) also holds unique soil and land records for 340+ territories worldwide.

Soil-crop systems and precision agriculture
In partnership with the Agri-EPI and CHaP Centres, we are creating and trialling pilot-scale simulated soil-crop systems. Unique facilities include a glasshouse fitted with and overhead phenotyping platform and five instrumented satellite farms for full-scale trials.

Postharvest laboratory
We have one of the largest centres in Europe dedicated to research in postharvest biology and technology; for physiological, biochemical and molecular analysis.

Cranfield is:

- working with the UK Government on two multi-million pound agricultural technology centres - Agricultural Engineering Precision Innovation Centre (Agri-EPI Centre) and Crop Health and Protection (CHaP),
- leading the £6m European AGFORWARD project to identify sustainable, profitable and productive farming systems.

Reducing waste in the fresh produce supply chain
Cranfield has developed innovative shelf-life extension technologies with Johnson Matthey and It’sFresh!, reducing the fresh produce wastage in major supermarkets such as Tesco, Waitrose and M&S.

“It’sFresh! typically saves their customers around 50% of in-store waste.”

Simon Lee, Director, It’s Fresh!

Technological innovations in flood risk management
We have been working with the Environment Agency and the insurance industry to use Unmanned Aerial Vehicles (UAVs) to monitor river erosion and flood impact.

“Cranfield’s work in this area complements existing technology, collecting data that practitioners need to manage flood risk effectively.”

Ben Lukey, Flood and Coastal Risk Manager, Environment Agency
Impact and influence

We work with 1,500+ businesses and governments around the world

Strategic Partnerships: we have strategic partnerships with Defra, Unilever Plc, PepsiCo and Rothamsted Research. We are also core members of the UK Government’s agricultural innovation centres, Agri-EPI Centre and CHaP.

Supply Chain Management: we are exploring the issue of food waste in Qatar by analysing supply and demand, distribution, transportation and storage of food. This research is funded by the Qatar National Research Fund.

Ecosystem Management: we are a lead partner for Wessex BESS, a research consortium funded by NERC to increase understanding of biodiversity ecosystem services in lowland agriculture.

Plant, soil and water interactions: we are applying our agri-informatics and precision agriculture expertise to use 'big data', drawing on our UK Land Information System (LandIS) and our World Soil Survey Archive and Catalogue (WOSSAC) to drive continuous improvements in crop utilisation, improve crop yield, and reduce waste.

Understanding our atmosphere: our new atmospheric science facilities are the result of our ongoing work with NERC and are advancing the science and technology of atmospheric releases, exposures and impacts.