DELIVERING **VALUE** FROM **BIG DATA**

Harnessing the expertise of world-leading partners, the **Institute for Environmental Analytics** (IEA) is developing the technologies and skills urgently required to turn environmental data into commercially-relevant solutions

Colin McKinnon CEO

WELCOME TO THE IEA

The Institute for Environmental Analytics (IEA) was founded in January 2015 and is a unique flagship organisation, funded by the HEFCE Catalyst Fund and hosted by the University of Reading.

The IEA aims to become a leading worldwide centre of excellence supporting the development of the environmental big data analytics market.

We work in close partnership with our partners and clients to undertake pre-commercial R&D and the development of proof-of-concept demonstrators.

Drawing on a team of highly qualified specialists with in-depth experience of application development, computing and data science, the IEA is ideally placed to enable clients to tap into cutting-edge scientific research to tackle environmental challenges and develop new market applications and services.

Typical projects range from a few weeks to several months. All are focused on quickly, but effectively, trialling new ideas and de-risking a client's investment in future products and services.

Clients benefit from the deep resources of both the IEA team and partners in areas including data capture, climate modelling, cloud computing, scientific research and operational service provision.

Alongside applied R&D and the development of proof-of-concept demonstrators, the IEA is developing a range of training courses to tackle skills gaps in environmental analytics ranging from one-day bespoke workshops to online courses and master's-level training.

IEA partners include the University of Reading, Airbus Defence and Space, Deimos Space UK, Lighthill Risk Network, Met Office, Microsoft UK and Microsoft Research, National Centre for Earth Observation, University of Oxford, Sainsbury's, Satellite Applications Catapult, Science and Technologies Facilities Council, University of Surrey and Telespazio Vega.

SECTORS AND THEMES

The IEA is developing collaborations across five key sectors to fully understand how data analytics can improve decision-making and tackle a wide variety of business and societal challenges. Some examples include:

Agri-Food
Exploring how data analytics can improve supply chain effectiveness

Insurance and financial services
Bringing together datasets and refining models to better predict the impact of natural hazards

Built environment and infrastructure
Using analytics to improve infrastructure resilience and adaptation planning

Logistics and transport
Mining data to optimise roads maintenance and support lower carbon logistics

Utilities – water, energy, waste
Using data to optimise wind farm locations through to predictive maintenance on pipe networks

CASE STUDY
WEATHER AND CLIMATE HAZARDS LAB

The Weather and Climate Hazards Lab is a demonstration web application that presents data on tropical cyclones for the benefit of users in the insurance industry. Developed with colleagues from the National Centre for Atmospheric Science and the Lighthill Risk Network, the Lab allows the user to interactively visualise tropical cyclones from a number of data sources including IBTrACS (a database of historic tropical cyclones), reanalysis datasets (including ERA-Interim and JRA-25) and population density maps. The user is able to generate summary statistics to give indications of the risks posed by these cyclones to populations and assets.

Institute for Environmental Analytics
Delivering value from big data

TRAINING THE NEXT GENERATION OF HIGHLY-SKILLED ENVIRONMENTAL DATA ANALYSTS

Our commitment is to create and deliver targeted training courses to address market opportunities and the shortage of environmental analytics skills, giving companies, organisations and individuals the right practical knowledge and confidence to make commercial use of the huge resource of open data.

We can also deliver bespoke courses tailored to your specific needs, calling on the knowledge and resources of IEA partners.

Courses include:

- **Sentinel-1** (two-day workshop): Take full advantage of the opportunities provided by free Earth Observation data to stay ahead of the competition
- **Software Development** (five-day workshop): Learn best practice programming techniques for professional engineers and scientists

Speak to us today about how we can leverage big data analytics to improve your competitive advantage

The IEA acts as a conduit between organisations spanning the whole environmental analytics community, pulling together expertise to create value and growth for the UK

FOR MORE INFORMATION PLEASE CONTACT

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The Institute for Environmental Analytics is a unique flagship centre, formed in 2015 with £5.6m from the HEFCE Catalyst Fund and hosted by the University of Reading.

HIGHER EDUCATION **hefce** FUNDING COUNCIL FOR ENGLAND

University of Reading