



<b>Job Title:</b>	GIS and Remote Sensing Data Analyst (Knowledge Transfer Partnership)
<b>Grade:</b>	KTP
<b>Salary:</b>	£37,000 to £39,000 per annum + £2,000 training package per annum
<b>Department:</b>	School of Geography
<b>Hours/Contract:</b>	Full time, fixed term contract for 26 months
<b>Job Family:</b>	Teaching and Research
<b>Reference:</b>	10445

## Role Purpose

This is an exciting opportunity for an ambitious GIS and Remote Sensing Data Analyst with practical experience of building and implementing supervised and unsupervised Deep Learning (DL) models that utilise remote sensing, biodiversity and environmental) algorithm.

You will drive forward a unique academic and commercial partnership between University of Leicester and Bluesky International Ltd (<https://bluesky-world.com/>) and contribute to the further development of NTM (National Tree Map), a Minimum Viable Product allowing users to assess and analyse tree canopy cover (current features include: location, height, canopy cover and idealised canopy cover) for the whole of Great Britain and Republic of Ireland.

This project will look to identify additional attributes of trees, in particular species type (other desirable attributes include, growth rates, healthy or diseased, ecological value, carbon storage capacity) that are critically important across a diverse range of applications. Each presents opportunities for specific sectors, enhancing an established value proposition used by over a thousand customers. The final output of the KTP - NTM 2.0 - will be an enhanced, new-to-the-company product.

You will be under the direction of supervisors from the University of Leicester and Bluesky International Ltd, working in collaboration with team members. Employed by University of Leicester and based at Bluesky International Ltd in Ashby-de-la -Zouch near Leicester, you will be part of the company's R&D team and will also work alongside Bluesky's experienced UK based technical team of circa 12 people. In addition, you will receive input and feedback from the sales and marketing team as well as Bluesky's environmental product specialist.

Within the University of Leicester, you will be a member of the Institute for Space; Institute for Environmental Futures and collaborate across School of Geography, Geology & The Environment and the School of Computing and Mathematical Sciences.

## About the company you will be working with

Established in 2003, Bluesky is now recognised as the UK's leading supplier of aerial survey and geospatial data including aerial photography, LiDAR, Tree Mapping, Ordnance Survey Mapping, building height models to capture its data. Bluesky International Ltd serves in the B2B space in the high-tech market segments. Clients include insurance industry, environment and sustainable technology sectors, central and local government organisations, telecommunications and land and property. Some of our case studies can be found here: <https://bluesky-world.com/our-work/case-studies/> and here <https://bluesky-world.com/news/>

Bluesky is the UK government's supplier of choice for aerial photography and height data through a contract with the Geospatial Commission which sits within the Department of Science Innovation and Technology. The contract facilitates the provision of map accurate vertical aerial photography and digital terrain datasets to all UK public sector organisations free at the point of use. These datasets are





updated on a two-year rolling schedule. Through leveraging IP in their national datasets, Bluesky developed a unique National Tree Map (NTM) in 2012.

The NTM product addresses real world challenges across a variety of market sectors. Applications include: insurance risk analysis for subsidence, vegetation encroachment of overhead powerlines and underground pipelines, biodiversity net gain and carbon calculation assessments, asset management and urban greening.

At Bluesky, we aim to generate a culture that is friendly, welcoming with collaboration and team work playing a central role the way we operate. We have a highly skilled, hard-working team and we want to ensure their work is recognised and they are valued. As an employee of the University of Leicester, you will also be able to access training resources and staff benefits.

### About Knowledge Transfer Partnerships (KTPs)

For nearly 50 years, KTPs have been helping businesses innovate for growth. They do this by connecting enterprises that have an innovation idea with the expertise to help deliver it.

A KTP could be the perfect launchpad for you, helping enhance your career by managing a challenging project central to an enterprise’s strategic development and long-term growth.

You’ll ‘own’ your own project, linked to both a university and an enterprise whose experienced teams will provide you with full support. Applying academic knowledge to a real-world challenge, this is a chance to deliver impact and shape your career, opening doors within both academia and industry.

As a KTP Associate, you will receive the following benefits:

- An interesting and challenging role enabling you to engage with a variety of leaders and innovators in the cultural, research consultancy and policy sectors.
- Supervision from world-leading academics and sectoral experts.
- Full access to the University’s and TAA’s resources to complete the project, with project support from the University’s KTP Office
- £2,000 per year for training and personal development (in addition to salary).
- Management training and mentoring from Innovate UK

### Main Duties and Responsibilities

#### Research and Innovation

- Review of the current system characteristics in place in the business and product specification
- Development, production and evaluation of state-of-the-art system for identification of targets in 3D point clouds
- Minimum viable product (MVP)’s system development and implementation
- Integration and prototyping of MVP
- Contribution to NTM 2.0’s commercialisation





## Impact and Knowledge Exchange

- Manage a key, strategic project within Bluesky International Ltd (with support from academic and company supervisors), ensuring that all defined targets and outputs are met within the timeframe
- Facilitate the transfer of knowledge between the University of Leicester and Bluesky International Ltd.
- Engage with other employees within the business to ensure that the knowledge transferred is properly embedded and exploited
- Prepare and present progress reports at project team meetings
- Represent the partnership at conferences and exhibitions
- Take part in Training and Development activities in both the University and Company

## Internal and External Relationships

You will be based at the premises of Bluesky International Ltd in Ashby-de-la-Zouch.

You will be directly supervised by a Company Supervisor on a daily basis and will also receive mentoring from an Academic Supervisor as required by the post. You will be responsible for ensuring that appropriate information exchange is maintained between the company and academic partner

## Planning and Organising

You will be working to the high-level workplan agreed with the funder from which you will develop a detailed action plan (with activities, outputs, Gantt chart, resource planning, risk assessment etc), adapting it as the project progresses.

You will formally report progress against (and variations from) this plan every 4 months at a Project Board meeting of the partners.

## Qualifications, Knowledge and Experience

### Essential

- A PhD or equivalent experience in applied Geographic Information Science (GIS) and/or Remote Sensing, or related discipline with strong geospatial/environmental element. \*
- Intermediate to expert level of programming experience with geospatial data. Evidence of programming level will be sought if shortlisted.\*
- Practical experience of building, developing and deploying deep learning models
- Knowledge of underpinning principles of deep learning models and approaches evidenced via publication or project work\*
- Experience using deep learning algorithms to draw and integrate data from multiple sources whilst ensuring data integrity and consistency that leads to outputs with standard formats, properties and metadata\*
- Experience with data analytics tools such as Python, Tensorflow, Pytorch





**Desirable**

- Experience in managing large data sets that may include LiDAR point cloud, raster data from satellites or environmental data that includes storage, access (for example via an API), query, security and transfer
- Knowledge of a variety of data visualisation techniques and packages
- A commercial mindset when considering potential solutions
- Knowledge about the important ecosystem functioning role of trees and the need for mapping
- Experience with both cloud and server-based processing platform solutions

**Skills, Abilities and Competencies**

**Essential**

- Excellent written and spoken English communication skills.
- Able to present data in an easy-to-understand format which can be used to gain deeper insights into the topic of enquiry.
- Ability to work as part of team but also be “Autonomous” when required.
- Competent at pitch delivery to diverse clients and customers at in-person and online events.

**Desirable**

- Project management and business acumen.
- Ability to work within a diverse development team comprising of academics and industrial partners and the wherewithal to impart new knowledge to the company team, embedding it through paired working, training and relevant 'how to' documents.
- Customer liaison skills.

***\*Criteria to be used in shortlisting candidates for interview***

**Reason for Fixed Term Contract**

The reason for the fixed term contract is stated in section 1.9 in the summary of contractual terms in your contract of employment.

**Criminal Declaration**

If you become an employee, you must inform your manager immediately, in writing, if you are the subject of any current or future police investigations/legal proceedings, which could result in a criminal offence, conviction, caution, bind-over or charges, or warnings.

**University Values**

**Inclusive** - We are diverse in our makeup and united in ambition. Our diversity is our strength and makes our community stronger.





**Inspiring** - We are passionate about inspiring individuals to succeed and realise their ambitions. We challenge our community to think differently, to get involved, and to constantly embrace new ideas.

**Impactful** - As Citizens of Change we will generate new ideas which deliver impact and empower our community

## Equity and Diversity

We believe that equity, diversity and inclusion is integral to a successful modern workplace. By developing and implementing policies and systems that challenge stereotypes across all aspects of our work, we have a culture that recognises and values the diverse contributions of our staff which benefits everyone. Our strong values of inclusivity and equity support our efforts to attract a diverse range of high quality staff and students, and identify our University as a progressive and innovative workplace that mainstreams equity, diversity and inclusion.

