

British Geological Survey & 5G RuralDorset partner to develop new coastal landslide monitoring system

5G RuralDorset today announced a new project expansion to monitor land stability and cliff movement at key points along the Jurassic Coast. The extension to this DCMS-backed project takes its funding to £8 million and sees the British Geological Survey (BGS) join the project to work on this research area.

Coastal landslides and cliff failures represent a [significant hazard](#) to local residents, workers and the 12 million people who visit Dorset's coast each year. Cliff falls are a hazard worthy of research and development trials, as they can be expensive and time consuming to monitor using traditional methods.

This highly interdisciplinary work brings together key 5G industry players Vodafone and Neutral Networks, experts in computer science from Bournemouth University and geological expertise from the British Geological Survey and Dorset Council.

It is hoped that the research can prove that by using 5G connected sensors, the process of data collection can be made safer, more cost effective, responsive, and efficient and contribute to coastal resilience in the face of climate change and sea level rise.

The sensors will collect data such as ground movement, temperature and rainfall, which will then be processed using Big Data Analytics and Machine Learning.

This work complements the studies already being trialled by the project into [coastal public safety](#) and [agritech](#) which also use connected sensors and Edge computing for processing.

It also demonstrates how 5G connectivity can benefit rural communities in a wide variety of use cases including coastal safety and for local councils in reducing costs for managing the natural environment.

Engineering Geologist and Landslide Specialist Catherine Pennington of the British Geological Survey said:

Due to climate change, our sea levels are rising which means we will see an increase in erosion and landslide activity at the coast. Understanding these processes is important in building resilience for the future so we can adapt to these changes. This project is an opportunity to combine expertise to explore a different, cost-effective and efficient way of collecting landslide data. We hope the resulting system will help us understand the processes that drive coastal landslides as they happen in real-time.

Dr. Marios Angelopoulos, Principal Academic at Bournemouth University, comments: "We are excited to work on this collaborative and multidisciplinary project as it gives us the opportunity to apply our 5G and IoT research to the benefit of our region with clear social and economic impact. Also, this is a fine example of how universities synergise with Industry to develop and trial new technologies in innovative use cases, thus helping to further expand the UK's world-leading R&D infrastructure. 5G networks are usually perceived to refer only to urban environments. With this work, we will demonstrate the great added value that 5G networks can bring in a variety of use cases also to rural areas."

Dorset Council Deputy Leader Peter Wharf said: "Cliff failures present a very dangerous problem not only in Dorset but other coastal regions which see huge numbers of visitors every year. This research, along with the coastal public safety trials, is critical to people's safety and the long-term prosperity of the area. Current monitoring methodologies are also very costly for the council and this new technology will hopefully provide significant savings in future."

This new research area also feeds into the AssetHUB work, delivered by NGIS. The primary focus of this is to build a comprehensive picture of the existing infrastructure in the area. By examining what assets already exist and which can be exploited, we can make the project more efficient as a whole and improve the success of planning applications and reduce costs and delivery timescales.

Rob Leenderts, CEO of NGIS Ltd, observed: "We are delighted to be working with Vodafone capturing and mapping assets for them in this great initiative. Knowing where assets are located can only help to spread the benefits of 5G further and faster by making deployments cheaper and quicker, to the benefit of all. The AssetHUB can map any asset and make it available to others on an open access basis for the benefit of all."

The system will be trialled at Lyme Regis and Burton Bradstock; coastal sites with active landslides posing public safety risks for the local community and especially visitors using the beach. The current management and monitoring systems at Lyme Regis represent a significant cost to Dorset Council.

Digital Infrastructure Minister Matt Warman said:

5G is about more than just having a faster mobile phone and this project in Dorset is one of the innovative trials the government is funding to find new ways it can improve people's lives. I look forward to seeing how it can boost public safety in our coastal communities and position the UK as a true world leader in 5G.