This project proposes an innovative project involving the implementation of the use of artificial intelligence in integrated archaeological research.

Artificial intelligence and learning neural networks are an innovative way to support human work in an increasing number of fields, from medical and technical diagnostics to automatic translations. Archaeological research itself has been associated for a long time not only with excavations, but also with modern techniques of detection and documentation of monuments such as aerial photographs, GPR surveys, metal detectors, and laser scanning. This project aims to take the next, milestone step in modern archeology, which in order to meet the requirements of the modern world must fully take advantage of its possibilities.

For this purpose, satellite data, aerial photographs, laser scanning databases of the Earth's surface or the effects of non-destructive ground-based research methods will be used, which are an unbelievably valuable resource from the point of view of detection and documentation visible in the landscape of human past. At the same time, despite the fact that it is sometimes used selectively for archeology, the amount of data arriving at an ever increasing rate has not been able to fully benefit from archaeological research for a long time. The amount of data that is overwhelming for a man or even a huge research team not only does not pose a challenge to artificial intelligence but actually is the perfect medium for it - the more data, the more machine learning is more effective.

Using the available remote sensing data and also using the already rich effects of non-invasive archaeological research in Poland, the project creates an original, partly supervised artificial neural network tool. The purpose of its existence is the analysis of publicly available satellite images (Big Data) and indicating areas potentially worth further research analyzes. Just as it is hard to imagine that AI will ever replace a human in the final analysis of data and drawing conclusions about the human past, so the analysis of the valuable resource of Big Data is currently only possible through the use of learning artificial neural networks.