Archaeological technology methods

These tools help archaeologists study and preserve cultural heritage in new ways by combining modern technology with significant sites and artefacts. With advanced methods like lasers, radar, and 3D imaging, archaeologists can explore hidden layers beneath the earth without disturbing the land.

This approach makes it possible to discover and protect artefacts, ancient structures, and sacred sites that might otherwise be lost. By using these innovative technologies, archaeologists at the Everick Foundation work alongside Traditional Custodians and communities to understand and safeguard history, honouring the stories and knowledge of past generations for future ones.

Ground Penetrating Radar (GPR)

GPR is a tool that uses radar waves to find things underground. It's useful for locating hidden structures, such as unmarked graves or buried ruins, without digging. Archaeologists can use GPR to get an idea of the size and depth of what's below the surface before they start an excavation.

Optically Stimulated Luminescence (OSL)

OSL helps archaeologists figure out the age of certain materials by measuring light given off from tiny particles in rocks and soil. These particles, like quartz, store energy over time. When exposed to light in a lab, they release that energy, which scientists measure to estimate how long it's been buried.

Reflectance Transformation Imaging (RTI)

RTI is a technique that captures super-detailed images of objects. Archaeologists take pictures of an object from different lighting angles. Software then combines the images, allowing them to adjust the lighting and see surface details like inscriptions or textures. This method is useful for studying delicate artefacts without touching them.
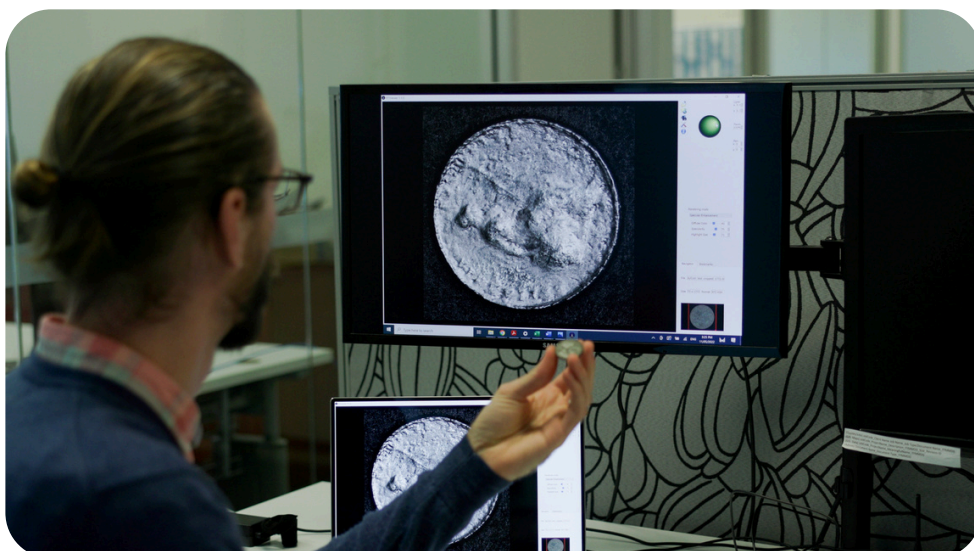
Radiocarbon Dating

Radiocarbon dating is a method that helps archaeologists find out how old an object is by measuring carbon-14, a type of carbon that naturally decreases over time. This technique works on anything that was once alive, like wood, bones, or plants, and can date items up to around 50,000 years old.


Geospatial Mapping

Geospatial mapping is a way of collecting and visualising data on maps to study ancient sites and artefacts. Archaeologists use it to see patterns in where people lived or built things, like settlements or roads, by mapping the landscape and adding details like rivers or hills. This helps them understand how people used and interacted with their environment over time.
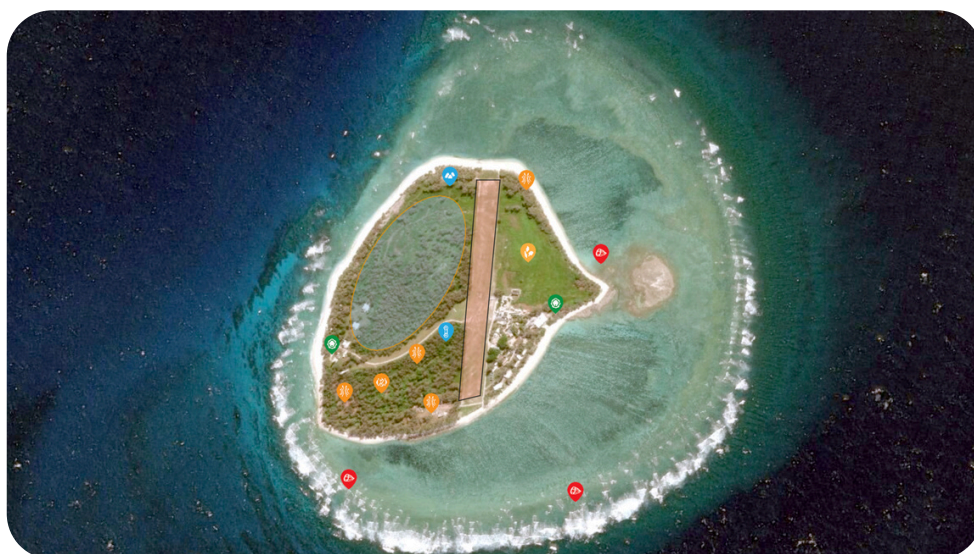
LiDAR (Light Detection and Ranging)

LiDAR uses laser light to map the land in 3D. It's especially helpful in areas with lots of vegetation, like jungles, because the laser can "see" through the trees to the ground. LiDAR has helped archaeologists find hidden structures like old roads or ruins and understand how people used their land.
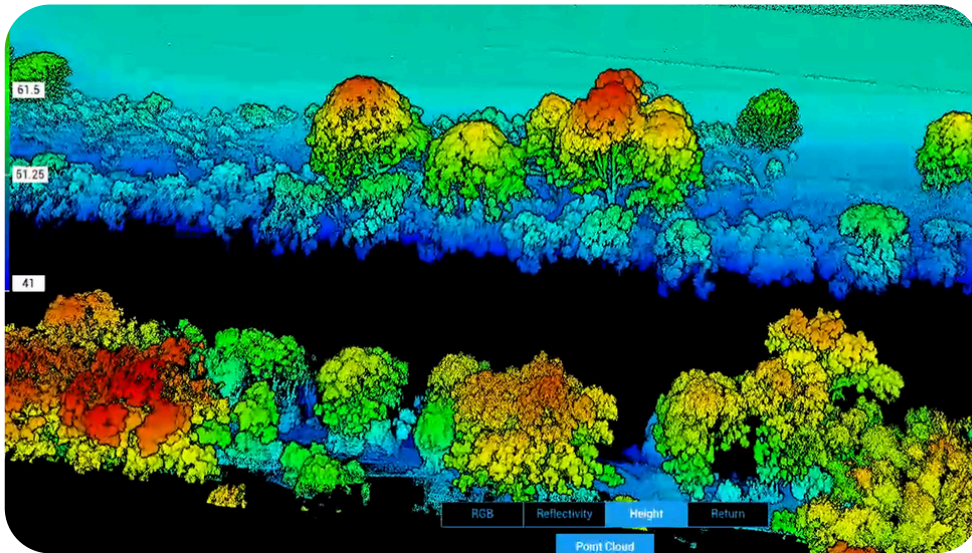
Remote Sensing and Imaging (Resi)

Resi uses technology to study archaeological sites from above without digging. Drones or planes can take pictures from high up to reveal layouts or hidden structures. Different methods within Resi include:

- GPR (Ground Penetrating Radar): Uses radar waves to see underground.
- LiDAR: Creates 3D maps using laser light.
- Magnetometry: Detects magnetic changes to find things like walls or kilns.
- Thermal Imaging: Spots heat differences that may show buried features.