northhein

DIGITAL HERITAGE DOCUMENTATION

# Digital Geospatial Documentation for Archaeology & Cultural Heritage

Drone mapping, LiDAR, photogrammetry, GIS and 3D reconstruction — turning archaeological, historical and anthropological sites into permanent digital records.

THE AMERICAS & THE CARIBBEAN

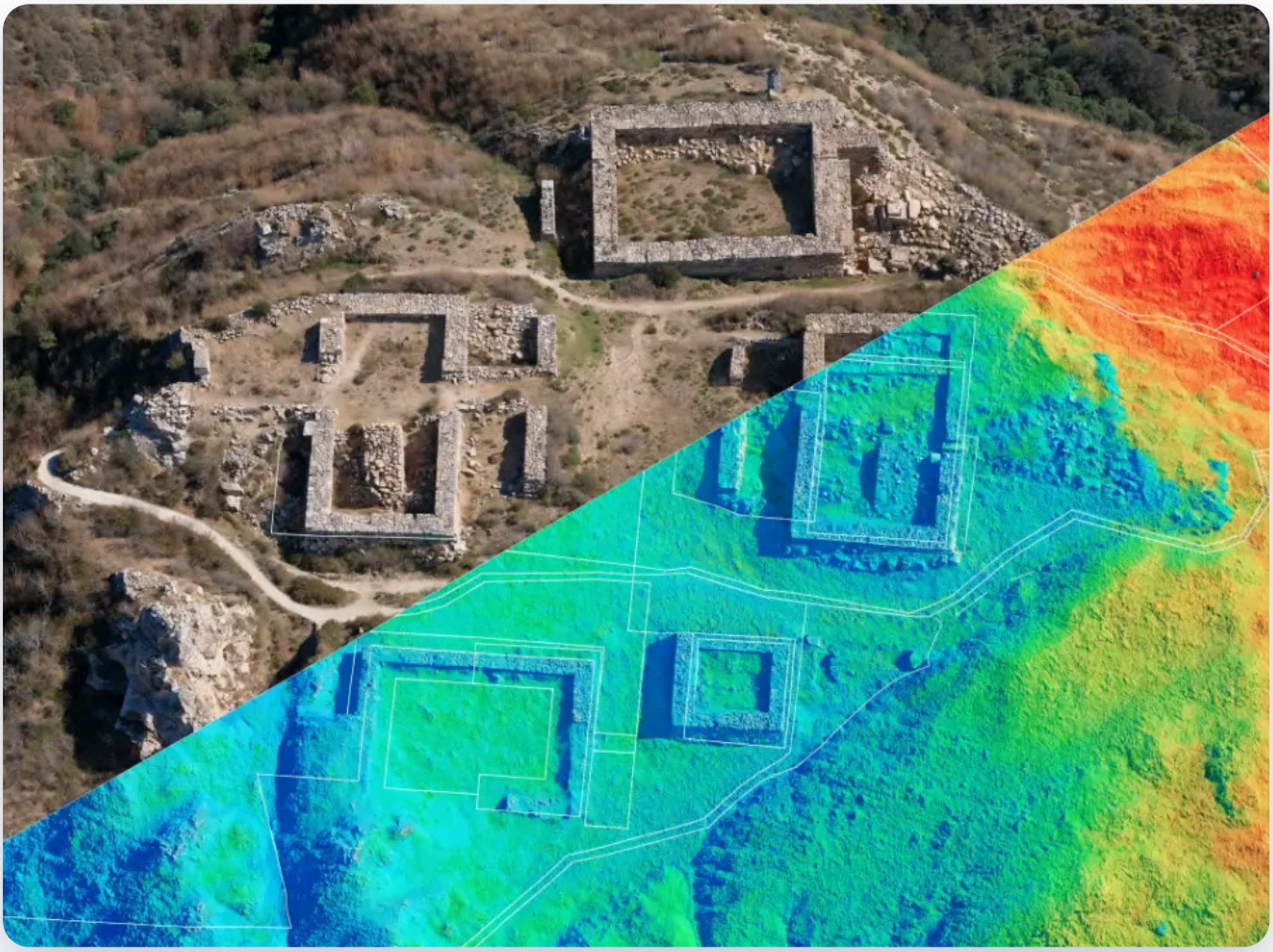
OUR PURPOSE

# Preserving the past with the precision of engineering

Every archaeological site, historic structure and cultural landscape is a finite record — disappearing to urbanization, erosion and time. We capture these places with survey-grade geospatial technology and deliver them as accurate, measurable, permanent digital assets, working under the scientific direction of the researchers who study them.

## Explore the world's heritage from anywhere.

Our photorealistic 3D models and digital twins turn a physical site into a living digital experience — one that any researcher, curator or student can open, measure, navigate and study from anywhere on Earth. A remote ruin becomes a dataset in a lab across the world; a cultural landscape becomes an immersive record that future generations can walk through, long after the original has changed. We don't just document heritage — we make it universally and permanently accessible.



DRONE ORTHOPHOTO AND COLORIZED LIDAR OF THE SAME SITE · ILLUSTRATIVE CONCEPT

WHAT YOUR INSTITUTION RECEIVES

# Permanent, integrable digital records

1

### High-resolution orthomosaics

Centimeter-scale, georeferenced aerial imagery of the entire site.

2

### Elevation & terrain models

Precise DEM/DTM surfaces for spatial and landscape analysis.

3

### LiDAR point clouds

Dense, measurable clouds that reveal features hidden by vegetation.

4

### Photorealistic 3D models & digital twins

Textured, navigable reconstructions to explore and study remotely.

5

### GIS databases & maps

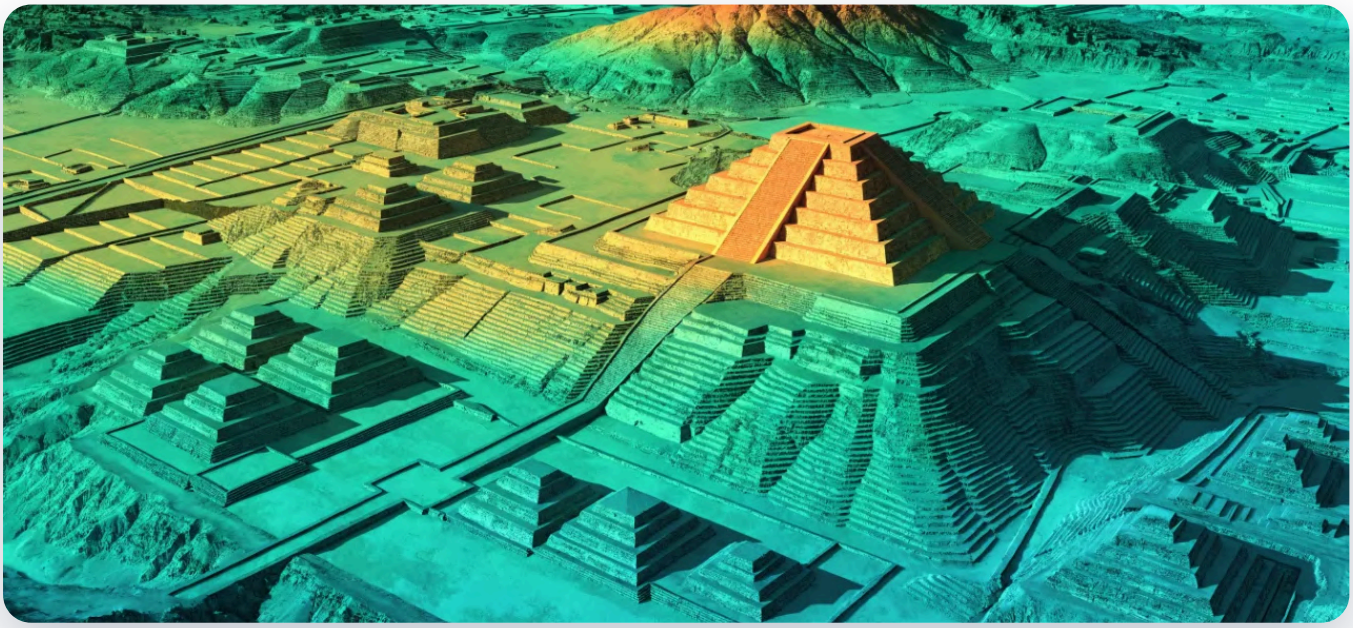
Georeferenced, layered data ready to integrate into your archives.

6

### Topographic & condition records

Survey-grade measurements and change detection for conservation.

Delivered in open, archive-ready formats (GeoTIFF, LAS/LAZ, OBJ/glTF, DXF, GeoPackage, PDF) — and as photorealistic 3D models your team can revisit, measure and study from anywhere, indefinitely.



3D DIGITAL TERRAIN MODEL · ILLUSTRATIVE CONCEPT

HOW WE WORK

# From field to digital archive — in four steps

**01 Plan & permit**
We define objectives with your research team, plan coverage, and coordinate permits and scientific direction.

**02 Acquire**
On-site capture with drones, LiDAR and GNSS survey control — non-invasive, precise, fully georeferenced.

**03 Process & model**
Raw data becomes orthomosaics, terrain models, point clouds, GIS layers and navigable 3D reconstructions.

**04 Deliver & integrate**
Archive-ready datasets in open formats, integrated into your databases and digital libraries.

## TECHNOLOGY & CAPABILITIES

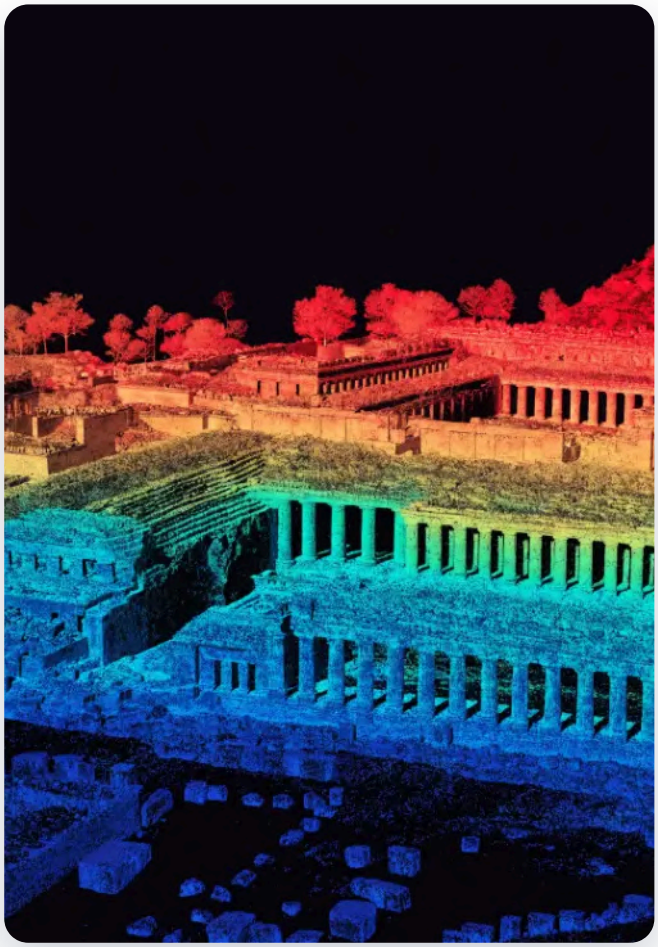
### FIELD ACQUISITION

- UAV / drone aerial mapping (RGB, multispectral)
- Aerial & terrestrial LiDAR scanning
- Close-range & structure photogrammetry
- RTK/PPK GNSS survey control
- Topographic & boundary surveying

### PROCESSING & MODELING

- Orthomosaic & DEM/DTM generation
- Point-cloud classification & analysis
- 3D reconstruction & texturing
- GIS database design & multi-layer mapping
- BIM / HBIM & digital-twin support

ORTHOMOSAIC & LIDAR MAPPING · CONCEPT



COLORIZED LIDAR POINT CLOUD · CONCEPT

APPLICATIONS ACROSS DISCIPLINES

# Where our documentation makes the difference

### Archaeology

Documentation before, during and after excavation; mapping of settlements, paths and waterways; digital preservation of deteriorating sites.

### Cultural & built heritage

3D records of monuments and structures, HBIM and digital twins, condition monitoring and public-facing visualization.

### Anthropology & landscapes

Cultural-landscape mapping, reconstruction of historic routes, integration of oral tradition, historical maps and spatial data.

**Built for:** Universities & research institutes · Museums & collections · Heritage authorities & agencies · NGOs & foundations · International expeditions · Archaeological projects

CULTURAL HERITAGE DOCUMENTATION · ILLUSTRATIVE CONCEPT

11 **Contributing to UN SDG 11.4** — Protect and safeguard the world's cultural heritage.

WAYS TO WORK TOGETHER

# Three ways to collaborate

**Pilot / collaboration**
A small first activity to demonstrate value on one site.

**Research partner**
Northhein joins your grant proposals as the geospatial & documentation partner.

**Specialized provider**
Full field-to-archive documentation when field budget is in place.

## GET IN TOUCH

Northhein LLC — New York, NY
48 Wall Street, Suite 1100 PMB 1044, NY 10005
info@northhein.com · mgomez@northhein.com
+1 (347) 902 9133 · WhatsApp
linkedin.com/company/northhein · northhein.com

## FOUNDER

Marcos Gómez
Civil Engineer · GIS & Digital Infrastructure Specialist
MSc Hydraulic Structures · MSc BIM Management
Civil 3D · QGIS · ArcGIS · InfraWorks · BIM

Registered U.S. Small Business · SAM.gov UEI H2Z6LJWH8J53 · CAGE/NCAGE 173H1 · NAICS 541370 · 541330 · 541512