London South Bank University

University of **Salford** MANCHESTER

Civil Engineering Department
S V National Institute of Technology (SVNIT), Surat

Department of Civil Engineering
Indian Institute of Technology Delhi

ICHR-AHRC: Lessons from the Project

IT INDIAN HERITAGE PLATFORM:

Enhancing cultural resilience in India by applying digital technologies to the Indian tangible and intangible heritage

Website URL: http://it-india-project.com/

Arts & Humanities Research Council

ICHR

भारतीय इतिहास अनुसंधान परिषद्
(मानव संसाधन विकास मंत्रालय, भारत सरकार के अधीन एक स्वायत्तशासी संस्था)
INDIAN COUNCIL OF HISTORICAL RESEARCH

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OVERALL AIM

To enhance the cultural resilience of the Indian tangible and intangible cultural heritage, challenged by rapid urbanization, by exploiting the potential of digital technologies applied to the heritage.

MAIN BENEFICIARIES OF THE PROJECT

Surat Municipal Corporation

Tourism business people

Civil society organisations

Citizens

Academic community

Indian local authorities and professional responsible for preserving local heritage

Archeological Survey of India (ASI)

Stakeholder Engagement

Stakeholder engagement workshop

PI presenting project to the Stakeholders

Yoga Session

Discussion and interview survey with the officials of Heritage Cell, SMC

Discussion with Conservation Architect of Surat Fort

3D Photogrammetry survey of English cemetery

Interaction with the members of Institute of Civil Engineers and Architects (ICEA) Surat

Discussion and Interview with Chief Resilience Officer of Surat

Surat Heritage Photography Exhibition

Creating Awareness among Locals

# Procedure Mapping: Laser Scanning - HBIM

No.	Work
	Stage 1 Permissions for Scanning
1.1	**Getting permissions from national authority**
1.2	**Getting permissions from state authority**
1.3	**Getting permissions from local authority**
	Stage 2 Site Arrangements
2.1	**Planning for scan stations**
2.2	**Arrangement of scaffolding**
	Stage 3 Collection of Intangible data
3.1	**Gathering of available photos and videos**
3.2	**Gathering of available plans**
3.3	**Gathering of available documents**
	Stage 4 Scanning
4.1	**Operating the scanner on ground**
4.2	**Operating the scanner inside the structure**
4.3	**Operating the scanner on scaffolding platform**
4.4	**Storage of data**

| No.	Work
	Stage 5 Post processing of point-cloud data
5.1	**Cleaning of point clouds**
5.2	**Scan alignment and geo referencing**
5.3	**Optimizing the point cloud**
	Stage 6 BIM Modelling
6.1	**Standard modelling**
6.2	**Model family creation**
	Stage 7 Mapping of Surface Defects
7.1	Automatic detection of defects
7.2	Mapping the defects on the model manually
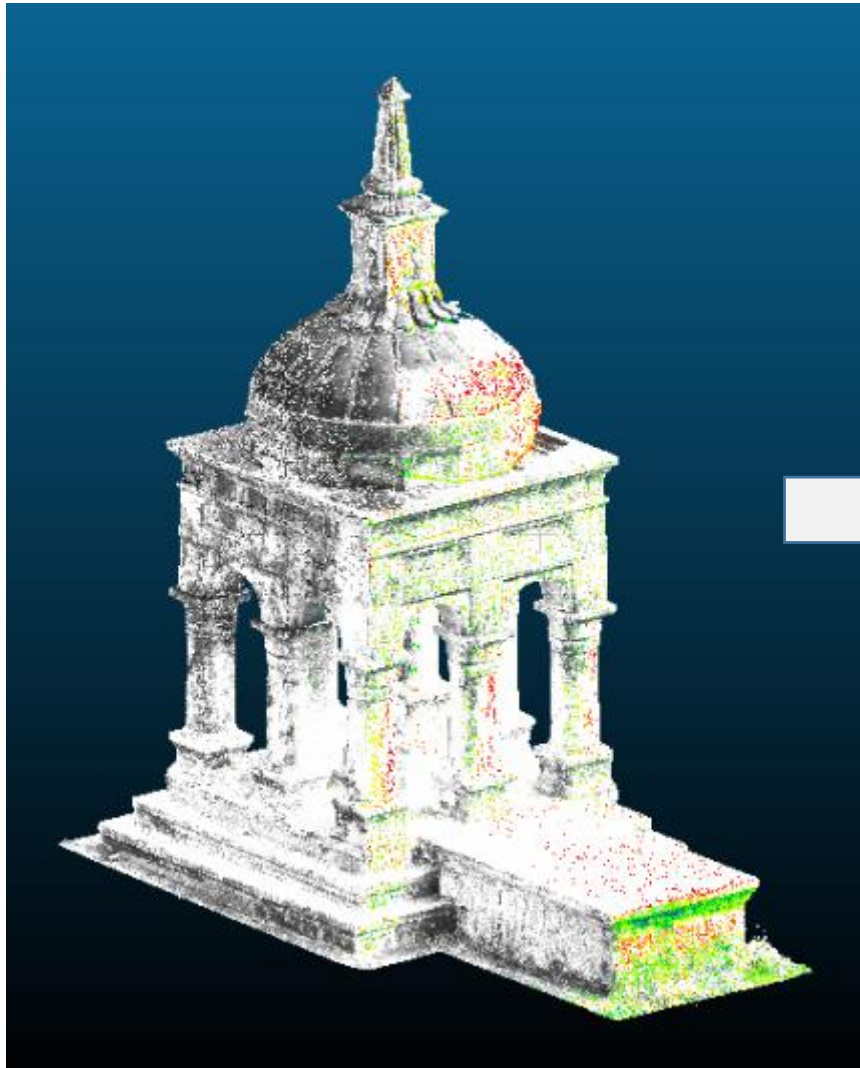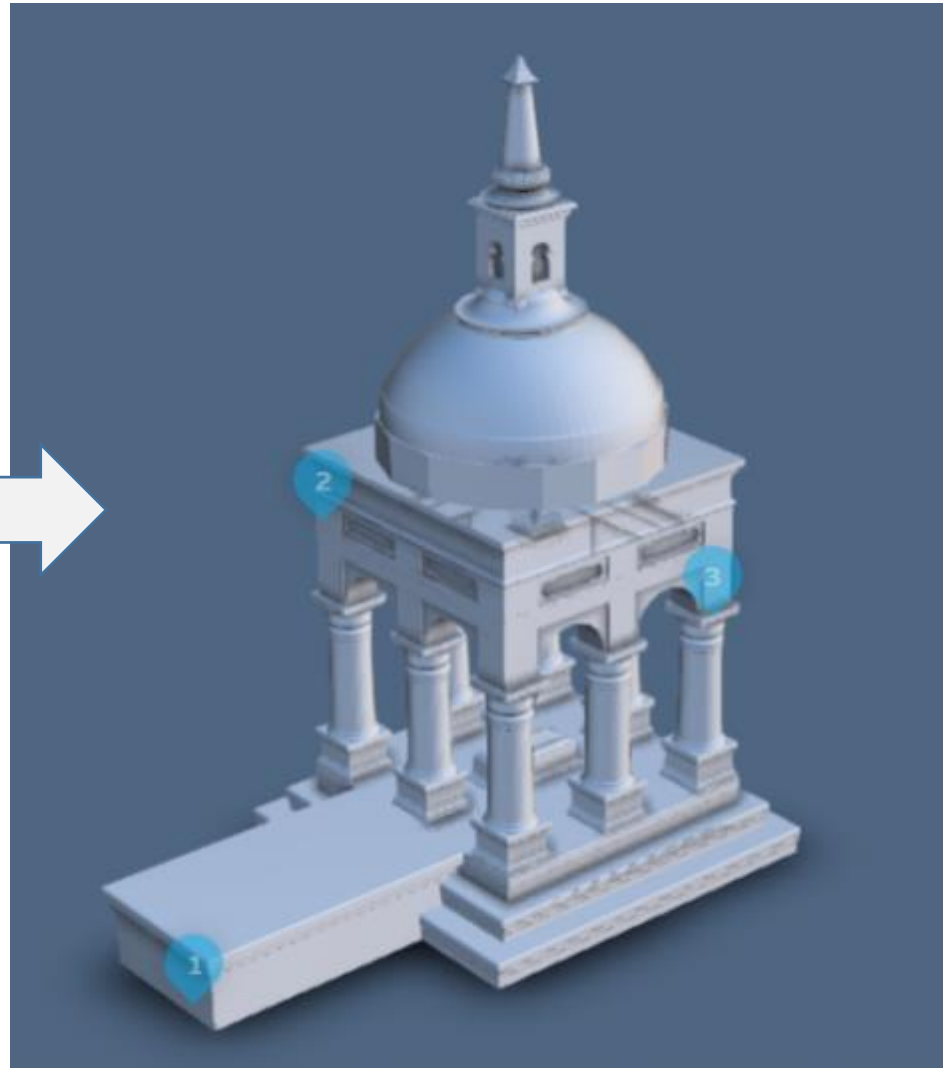
Laser Scanned Point Cloud

HBIM
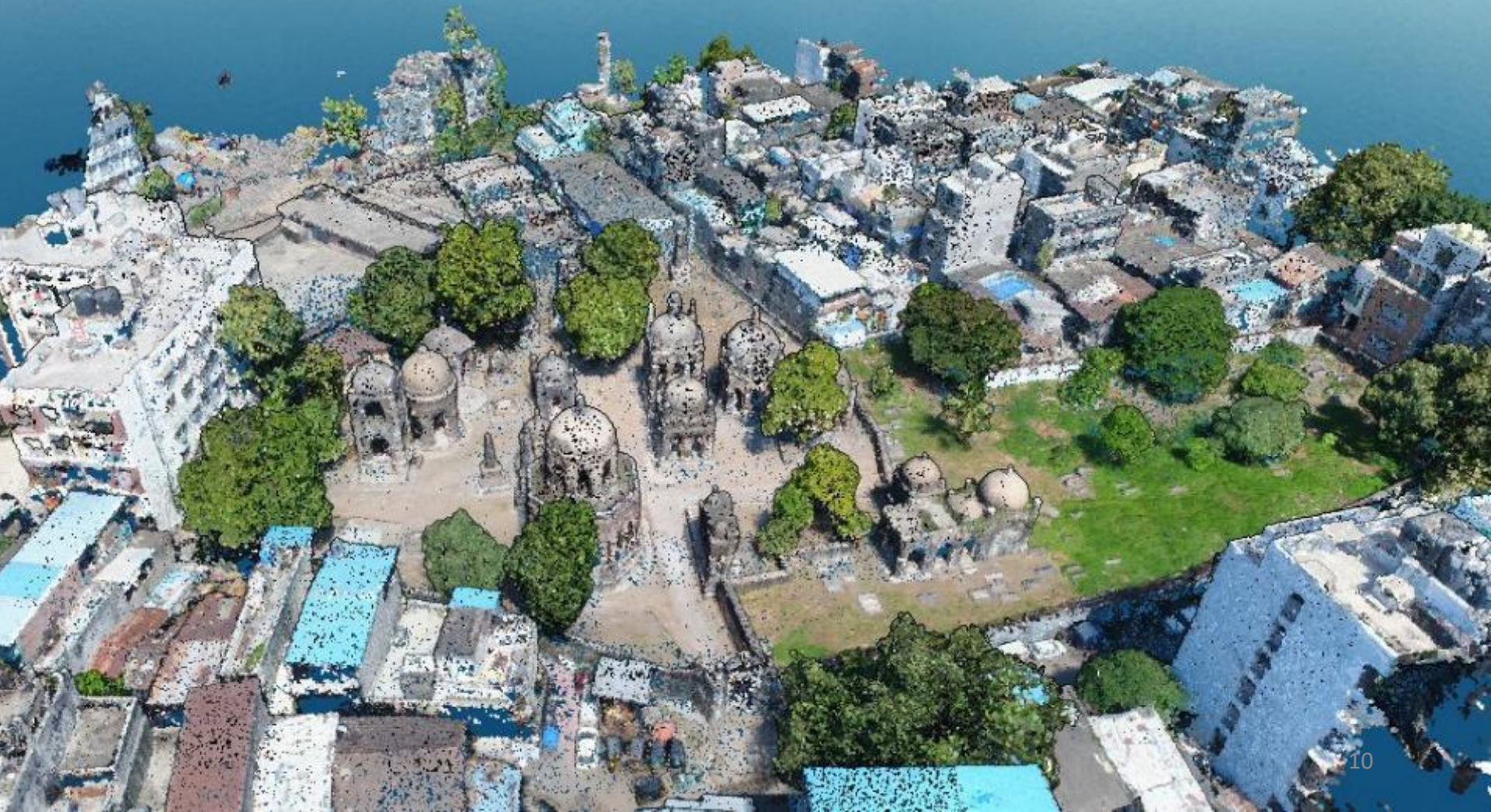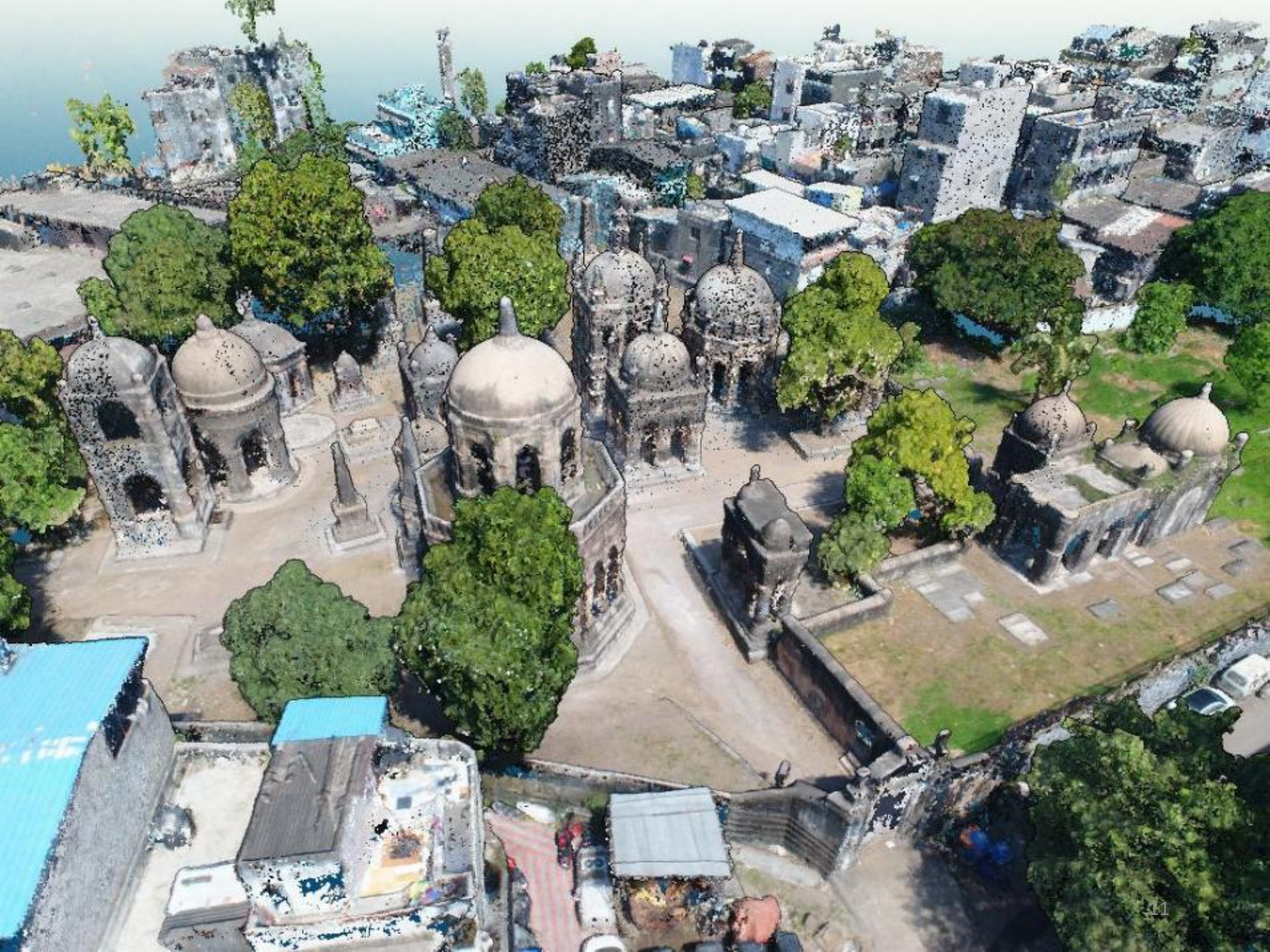
Laser Scanned Point Cloud
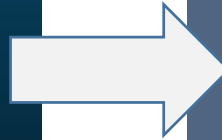
HBIM

3D Mapping of Heritage Sites using UAV (Unmanned Areal Vehicle)

PHOTOGRAMMETRY

3D Mapping

HBIM

Virtual Reality

Augmented Reality

Walkthrough

Guided Tours with Audio

Thank you