

# **On Digital Fabrication and Art Conservation**

**with Kai Tiller**



**What is Art Conservation?**



**How does digital fabrication combine with art history?**

# Methods

Laser scanning and Photogrammetry



# Smithsonian X 3D<sup>BETA</sup>

[www.3D.si.edu](http://www.3D.si.edu)



Hand-held  
3D Scanner

**1** Patterns of light are projected onto the object.

**2** Shape and texture data is reflected back to scanner, captured by cameras.

T. rex bone

Sandbag support

Turntable

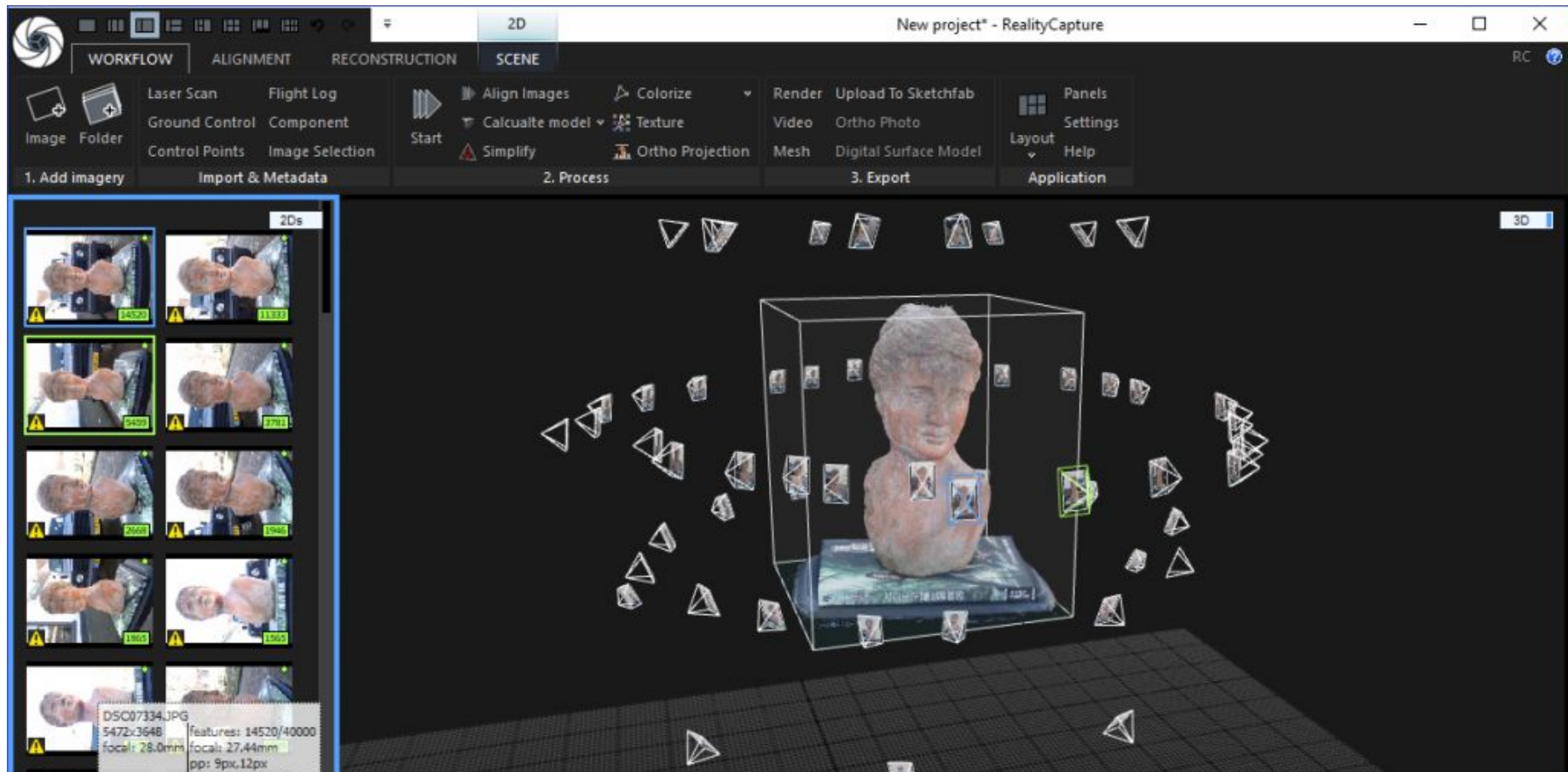
Color camera

Black &  
white  
cameras

Projector

**3** Data is converted to a 3D polygon model.





Example of Photogrammetry

# Examples

Why should we digitally scan and archive art?



stw

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# scan the world

*the open source museum*

Scan the World is an ambitious community-built initiative whose mission is to share 3D printable sculpture and cultural artefacts using democratised 3D scanning technologies, producing an extensive ecosystem of free to download digital cultural heritage. In making culture accessible, communities are encouraged to share their scans, stories, and creations with the goal to bring tangible heritage to the masses. Share your stories with us at [stw@myminifactory.com](mailto:stw@myminifactory.com)



Archives for sharing and learning uninhibited by location.



**TOOLS**

Measuring Tape  
 10.44 ft  
☒ Imperial ☐ Metric



Cross-Section  
☐ ☐ ☐



Position

☐ Flip Direction

Height Profile

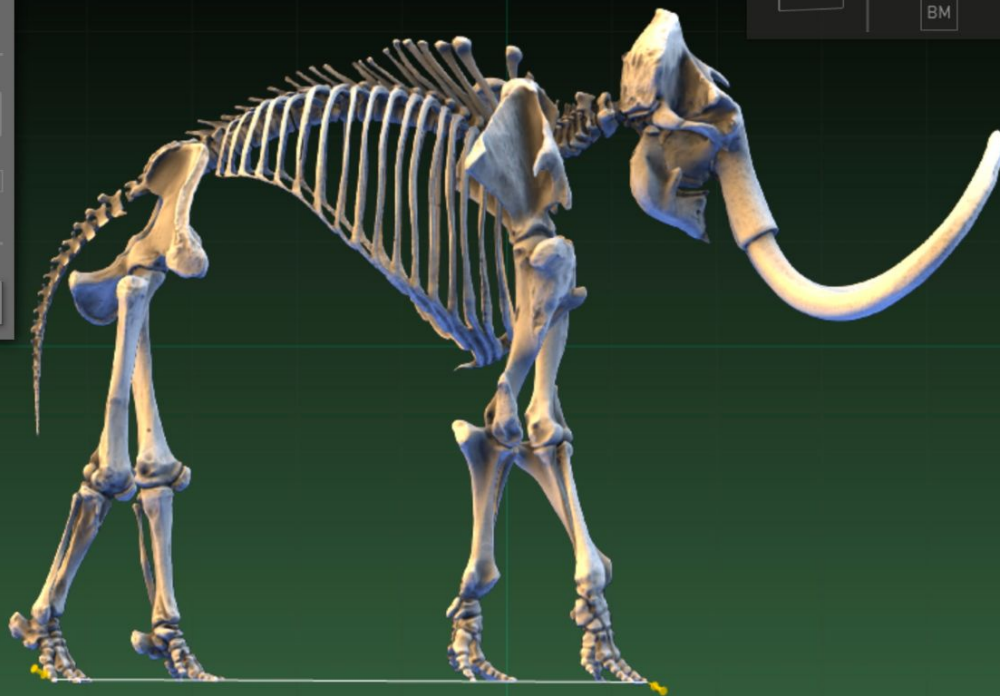
Woolly Mammoth

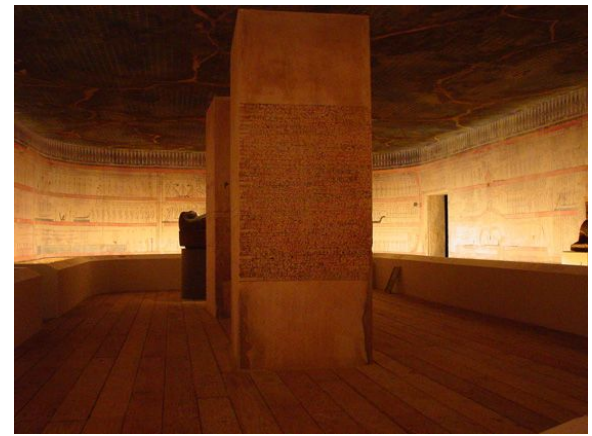
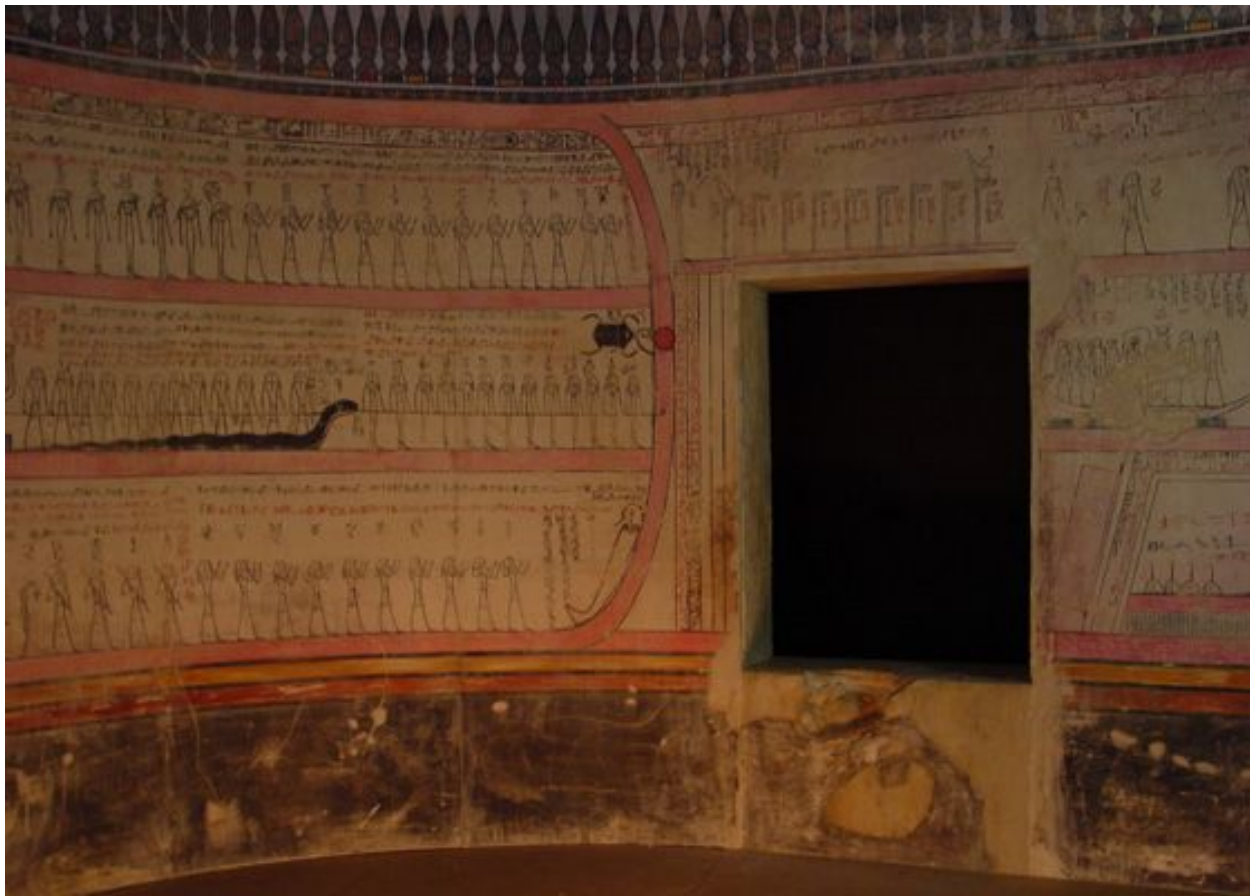
  



Woolly Mammoth





*Replica of King Tut's tomb by Factum Arte*

Reconstruction of delicate artworks and locations.





Exhibition design for the visually impaired.



# Metropolitan Museum of Art 3D scanned three suits of Armor for Artist' Public Art Show

By Yosra K. - May 22, 2018



**Armor**  
German, possibly Brunswick, ca 1535  
Steel, leather  
The Metropolitan Museum of Art. Gift of George D. Pratt, 1926(26.91.1a-n)



**Armor**  
Italian, ca 1550-75  
The Metropolitan Museum of Art. Gift of George D. Pratt, 1927(27.159.1a-p)



**Armor**  
British, Greenwich, ca 1587  
The Metropolitan Museum. Frederick C. Hewitt Fund, 1911(11.128.1a-p)

Use in creation of new works.

# Questions

First, any questions about the presentation?





### **Questions for Thought:**

What are your opinions on repurposing existing art? (in regards to your own practice or others)

Do you see digital archiveship as a sustainable method?

**Thank You For Listening!**