

# Digital Clay: A New Layer at the Natural History Museum

The [Natural History Museum](#) (NHM) in London has recently opened its newest gallery, [Fixing Our Broken Planet](#), a decade-long temporary exhibition that explores the future of sustainability. More than just a conceptual theme, sustainability is embedded into the very fabric of the gallery itself – from the materials used to the processes employed in its construction.



The refurbishment of the space marks a careful balance between conservation and innovation. The gallery is housed in one of the Museum's original Victorian rooms, meaning every design decision had to adhere to the constraints of a heritage-listed site.

The NHM's in-house team of architects led the design with a strong emphasis on reducing environmental impact while ensuring durability and functionality.



A pivotal strategy in the transformation of the gallery was the use of 3D printed ceramic elements for the display cases. After an extensive assessment comparing various materials and fabrication techniques, a sustainability report identified robotic ceramic production as the most responsible option. This decision made it possible to fulfill all structural and design requirements while preserving the architectural integrity of the space.



For the development and fabrication of the display structures, NHM partnered with [LAMÁQUINA](#), who produced all ceramic parts using clay that contained 40% recycled content from the ceramic industry.

The production method was designed to eliminate waste entirely. Two complementary fabrication techniques were used: robotic 3D printing for the structural bases, and 2D tiling for the horizontal capping elements. Each printed base was engineered with a specific profile that enabled dry assembly through biopolymer joints, making future disassembly simple and supporting a circular lifecycle.



To efficiently manage fabrication and installation, the design was systematised into ten modules, which were repeated in different configurations to accommodate the gallery's narrative. These modules were further divided into standardized parts. In just under 3 months, a total of 1,686 unique components were robotically manufactured, each one tailored to accommodate cables, lighting, or signage as needed.

The internal geometry of every printed piece was optimised to reduce weight without sacrificing structural strength, ensuring that each part could perform reliably over the gallery's lifespan.







# CREDITS

**Design:** Natural History Museum

**3D Printing:** LAMÁQUINA

**Glazing and Firing:** Ceràmica Cumella

**Technology:** WASP

Images of the final project © The Trustees of the Natural History Museum, London, 2025.

Images of production © LAMÁQUINA, 2025.