The Talavera Project, Bridging Heritage and Technology for a Sustainable Future

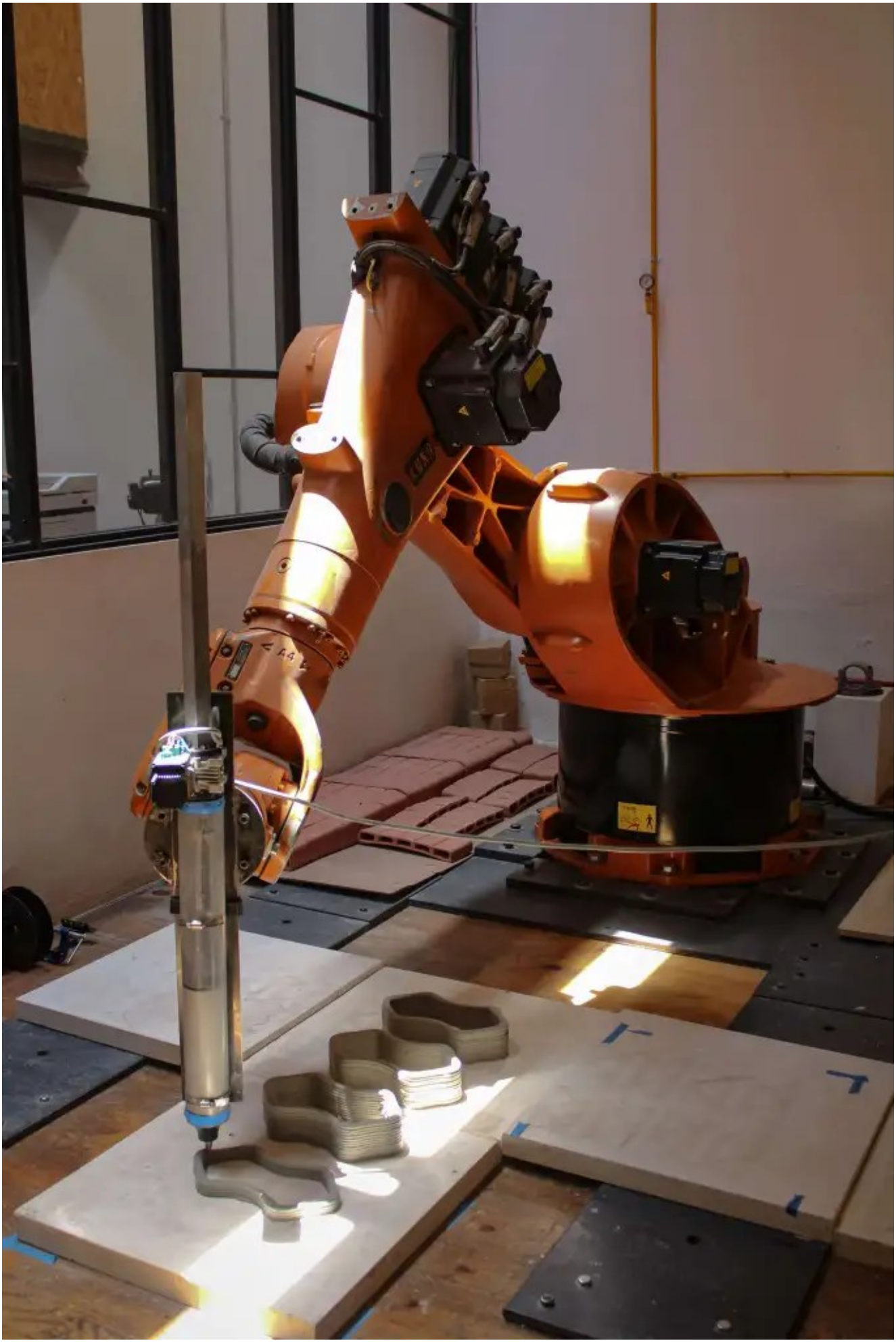
In the heart of Puebla, Mexico, the Talavera Project stands as a testament to the effortless blending of tradition and technology. Spearheaded by Dinorah Martínez Schulte and MANUFACTURA, this collaborative initiative with Uriarte Talavera, the oldest workshop in Puebla, has redefined the production of Talavera, a cherished cultural heritage.

From ideation to execution, the project showcases a harmonious blend of handcrafted artistry and cutting-edge digital manufacturing techniques, with Rhino and Grasshopper playing pivotal roles in the transformative journey.

BRIDGING PAST & PRESENT

The Talavera Project emerged as a response to the challenges faced by Uriarte Talavera, grappling with issues of innovation stagnation and a significant waste footprint inherent in traditional production methods. The project aimed to create a dialogue between the rich heritage of handmade craftsmanship and the possibilities offered by digital fabrication, particularly robotic 3D printing.

Drawing inspiration from the historic techniques preserved at Uriarte Talavera, the ideation and design phase became a delicate dance between tradition and innovation. Using Rhino, the team meticulously modeled the 3D geometry, capturing the essence of Talavera's intricate baroque style. Grasshopper allowed for the slicing of the geometry, optimizing the layering process crucial for 3D printing.



PRODUCTION PROCESS IN 8 STEPS:

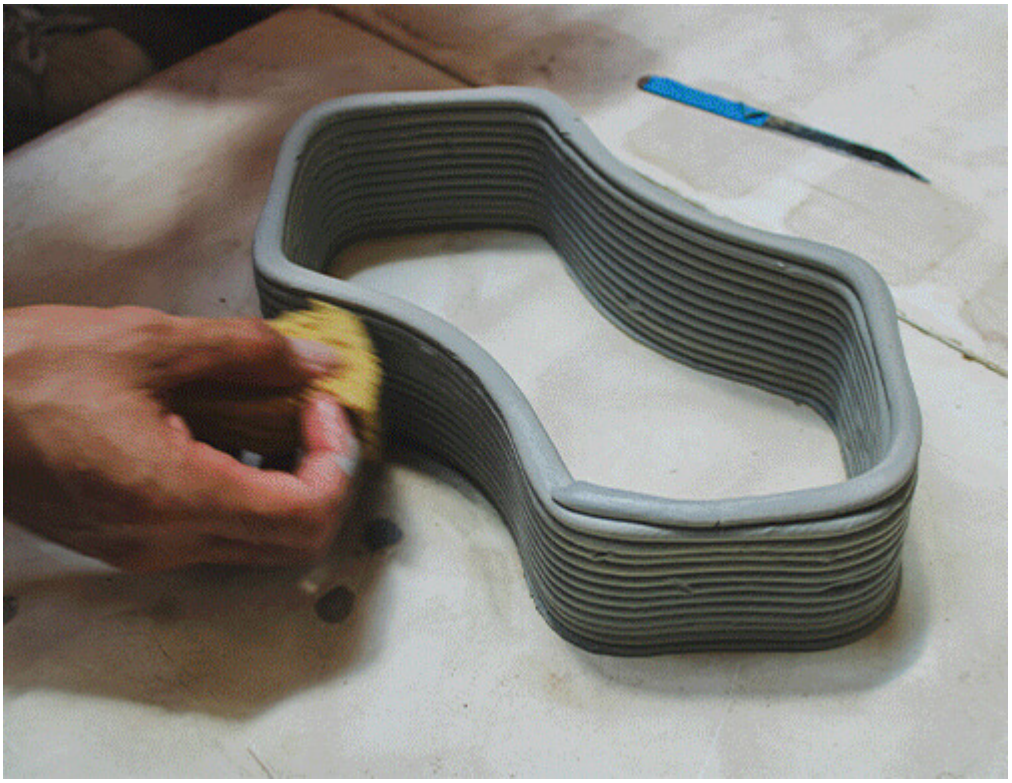
1. **Robotic 3D Printing:** Using a KUKA KR150 robotic arm, the team employed national ceramic for 3D printing, creating a parametric file for optimized layering.
2. **High-Temperature Firing:** The 3D-printed piece underwent hightemperature firing in a specialized oven at ANFORA Studio.
3. **Handcrafted Mold Creation:** A local artisan handcrafted a gypsum mold based on the 3D-printed piece.
4. **Clay Production:** Mixing black clay from Amozoc and white clay from Valsequillo, the team formed the base clay, allowing it to settle before manual molding.
5. **First Firing (Jahuete or Sancocho):** The piece underwent a low-temperature firing in a gas oven at URIARTE Talavera, indicating partial baking.
6. **Glazing and Coating:** Through immersion, the piece received glazing for traditional shine and color, using cobalt blue paint derived from natural minerals.
7. **Cobalt Blue Painting:** Applied by hand with mule hair brushes, the cobalt blue paint imparts the iconic hue, a hallmark of authentic Talavera.
8. **Final Firing:** The pieces entered a hightemperature firing to allow the glazes and paints to react, achieving the finished product.

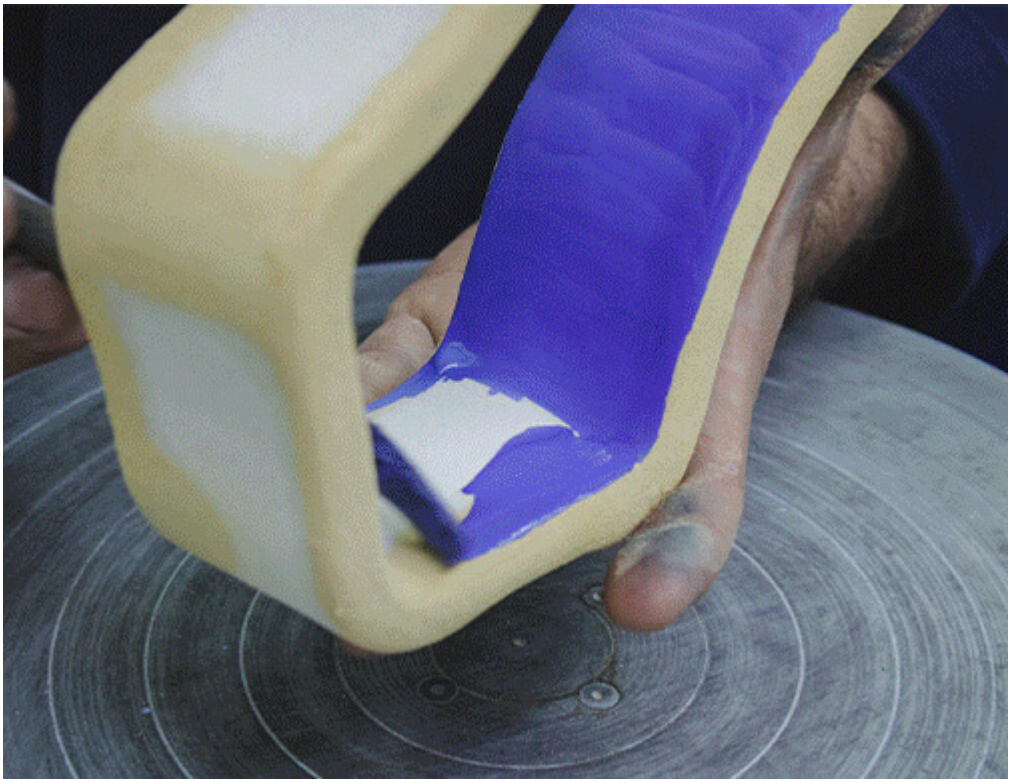
OVERCOMING CHALLENGES: THE INTERSECTION OF CRAFTSMANSHIP & TECH

The Talavera Project faced the challenge of reviving traditional craftsmanship while incorporating advanced digital manufacturing. The careful balance between these seemingly disparate elements required a deep understanding of both the artisanal process and the capabilities of digital tools.

Talavera’s complex handmade production process, combined with its protected designation of origin, posed challenges in terms of cost, time, and waste. To address this, the project introduced an innovative

solution—a column made from 3D-printed Talavera pieces, bridging the gap between the artisanal and the automated.





SUSTAINABLE PRACTICES: TACKLING ENVIRONMENTAL & SOCIAL CONCERNS

Acknowledging the environmental impact of traditional production and transport methods, the Talavera Project aimed to reshape the narrative. By utilizing digital design, robotics, and technology, the project showcased a circular approach to sustainability. Notably, the creation of an eco-friendly rug from production waste exemplifies a commitment to transforming waste into valuable, ecologically conscious products.

See Also

STEP BY STEP INTRODUCTION TO SUBD

A HARMONIOUS CONVERGENCE

In conclusion, the Talavera Project exempl

if
ie
s
a
ha
rm
on
io
us
co
nv
er
ge
nc
e
of
tr
ad
it
io
n
an
d
in
no
va
ti
on
,
sh
ow
ca
si
ng
th
at
,
in
a
Me
xi

ca
n
co
nt
ex
t,
di
st
in
ct
io
ns
be
tw
ee
n
ty
pe
s
of
te
ch
no
lo
gy
ar
e
ir
re
le
va
nt
.

Rhino and Grasshopper provided the foundation for this transformation, allowing for precision and parametric control in the intricate process.

By redefining the production of Talavera through a conscious evolution, the Talavera Project not only preserves cultural identity but also fosters opportunities for sustainable heritage preservation.

In the face of global challenges, this initiative stands as a beacon, illustrating that technology and tradition can coexist, complementing each other to create a more sustainable and culturally enriched future.