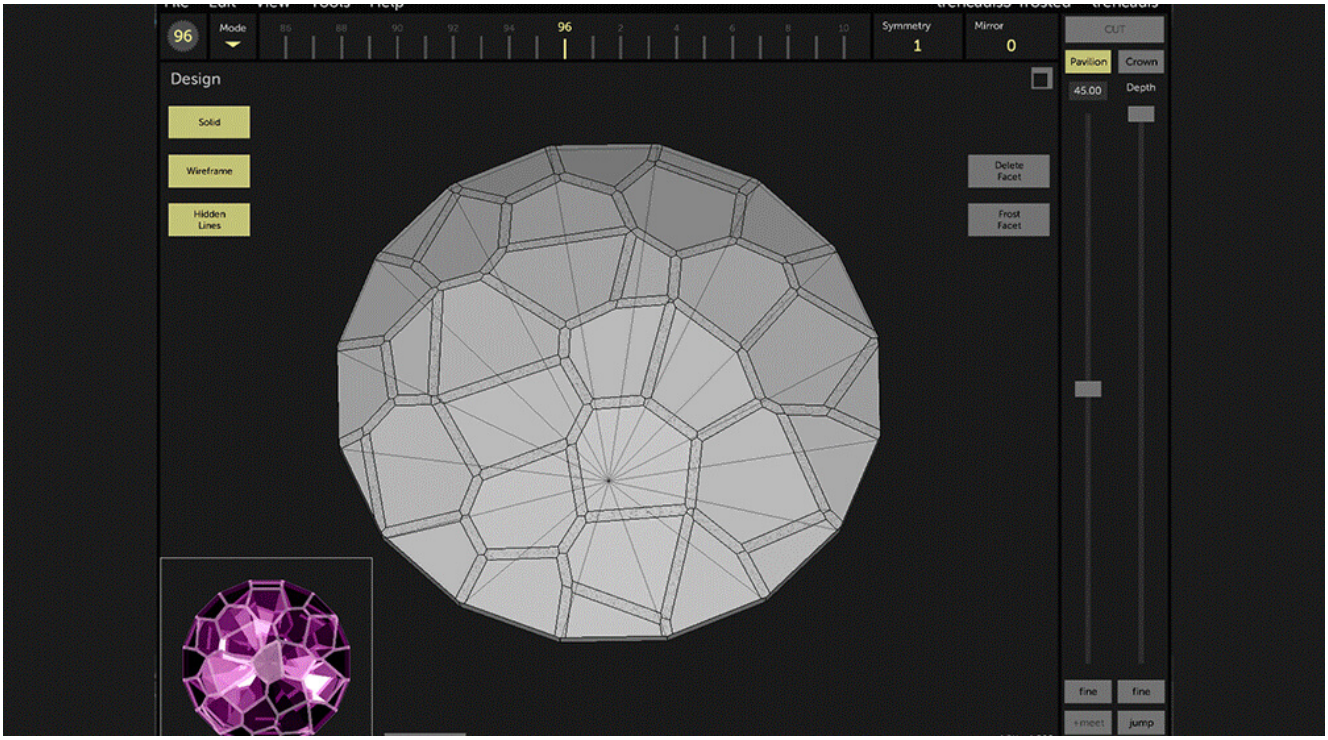
The Barcelona Collection: a Fusion of Technology & Tradition in Spanish Jewelry

The global competitiveness of the Spanish jewelry industry is undergoing a pivotal transformation – adapting production mechanisms to new technologies, leveraging top-tier human capital, and optimizing production costs and timelines.

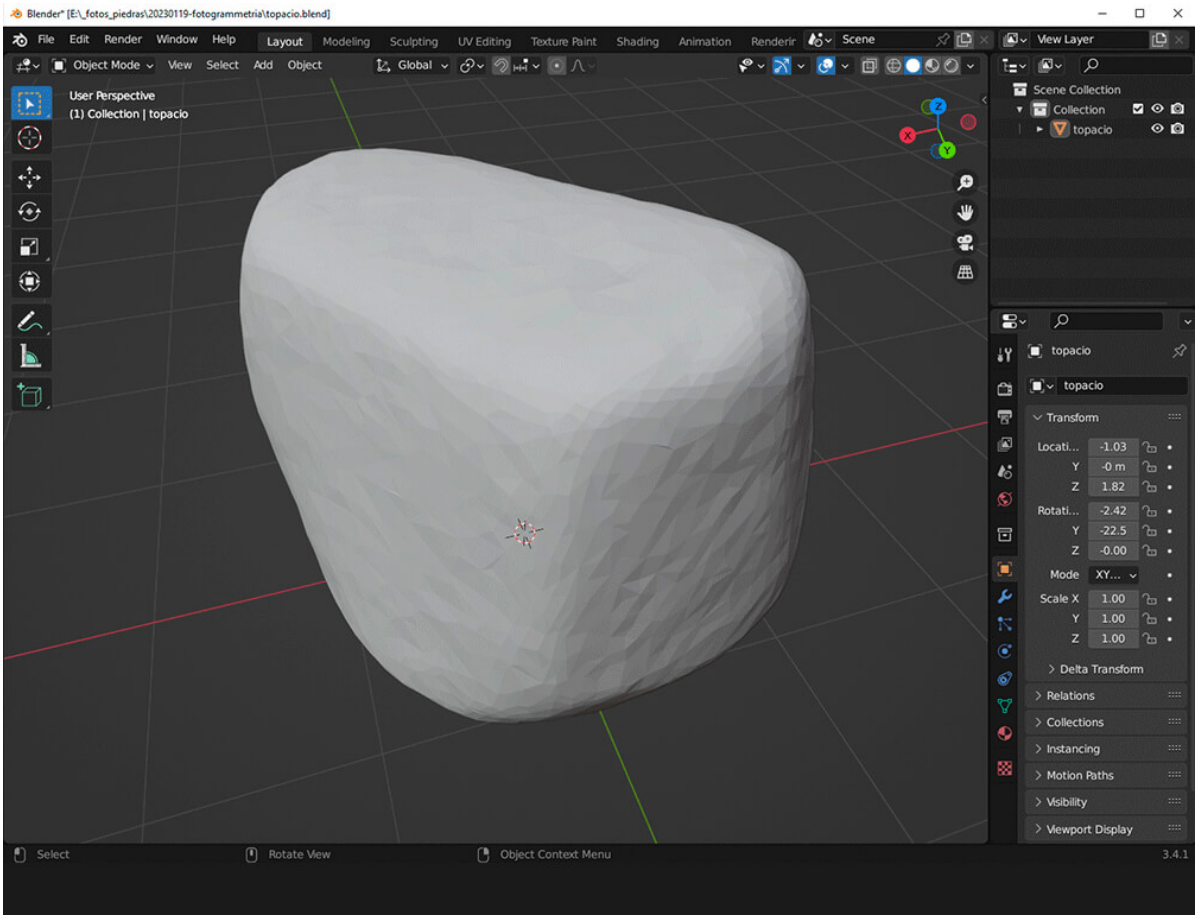
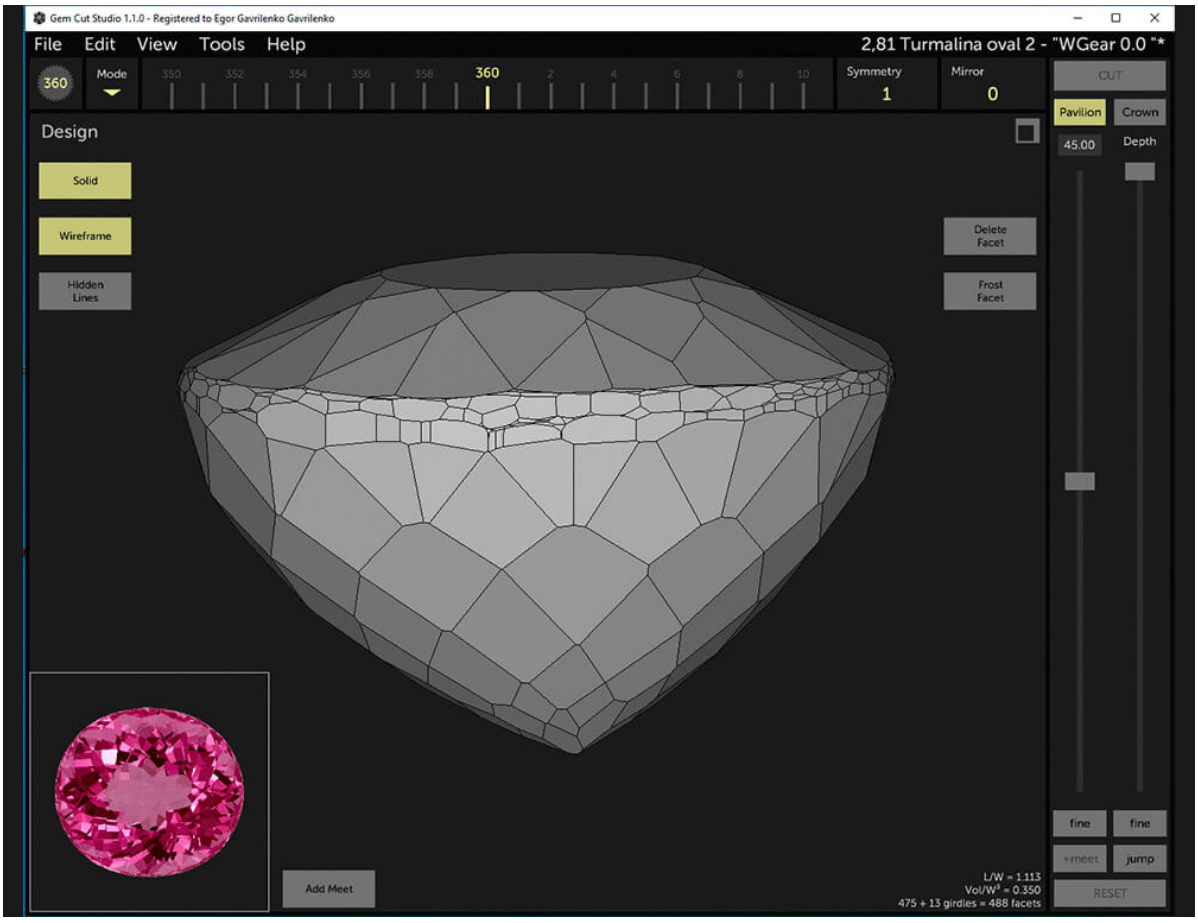
At the forefront of this evolution is the Barcelona Collection, a paradigm of artistic ingenuity and technological innovation, resulting from the convergence of two industry professionals: Chesco Díaz, a jeweler, educator, and 3D jewelry modeling software distributor, and Egor Gavrilenko, a geologist, gemologist, and precision lapidary master.


96
Mode
96
Symmetry
1
Mirror
0
Design
Solid
Wireframe
Hidden Lines
Delete Facet
Frost Facet
CUT
Pavilion
Crown
45.00
Depth
fine
fine
+meet
jump

ORIGINS & EVOLUTION OF THE BARCELONA COLLECTION

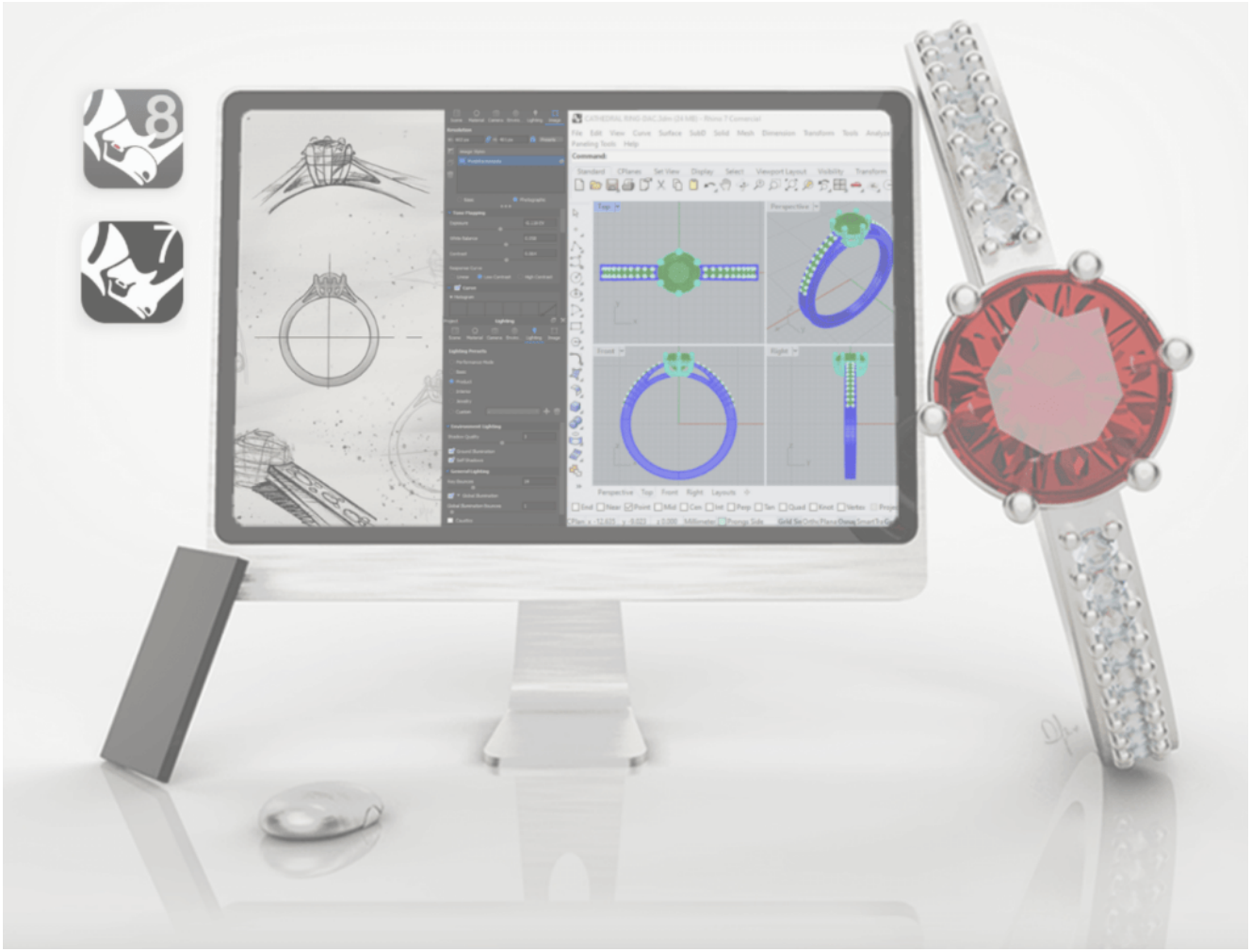
The Barcelona Collection didn’t germinate from commercial motives but sprouted as a conceptual exploration by Chesco Díaz. Motivated by the architectural wonders of Barcelona, Díaz sought to encapsulate the city’s essence within a unique jewelry line. Informed by personal experiences and proficiency in 3D modeling, the collection became a canvas for expressing Barcelona’s charm through intricate jewelry design.

Díaz’s primary goal extended beyond crafting a new jewelry line; it aimed to materialize an idea inspired by reflections on Barcelona’s architecture. Strolling through the city streets, he drew inspiration from elements like lanterns, floor tiles, and wrought iron balconies. The Barcelona Collection took shape through the plasticity offered by 3D modeling, enabling Díaz to transform his ideas into tangible, wearable art.

- 
Blender* [E:_fotos_piedras\20230119-fotogrammetria\topacio.blend]
File Edit Render Window Help
Layout Modeling Sculpting UV Editing Texture Paint Shading Animation Renderir
Scene
View Layer
Object Mode View Select Add Object
Global
User Perspective
(1) Collection | topacio
Scene Collection
Collection
topacio
topacio
topacio
Transform
Locati... -1.03
Y -0 m
Z 1.82
Rotati... -2.42
Y -22.5
Z -0.00
Mode XY...
Scale X 1.00
Y 1.00
Z 1.00
Delta Transform
Relations
Collections
Instancing
Motion Paths
Visibility
Viewport Display
Select
Rotate View
Object Context Menu
3.4.1
- 
Gem Cut Studio 1.1.0 - Registered to Egor Gavrilenko Gavrilenko
File Edit View Tools Help
2,81 Turmalina oval 2 - "WGear 0.0 "*
360
Mode
350 352 354 356 358 360 2 4 6 8 10
Symmetry
1
Mirror
0
CUT
Pavilion
Crown
45.00
Depth
Design
Solid
Wireframe
Hidden Lines
Delete Facet
Frost Facet
fine
fine
+meet
jump
RESET
Add Meet
L/W = 1.113
Vol/W³ = 0.350
475 + 13 girdles = 488 facets

THE ROLE OF 3D MODELING IN JEWELRY DESIGN

Díaz accentuates the transformative influence of 3D modeling on the creative process. It provides the flexibility needed for rapid iterations and real-time adjustments. The marriage of design and modeling skills is pivotal, empowering designers to embody their ideas without intermediary distortions. The efficiency of 3D modeling not only expedites the creative journey but also streamlines cost-effective production.



See Also

MODELING 3D JEWELRY

The genesis of the collection for Chesco also served as an exercise in knowledge and development of organic modeling techniques within Rhino,

particularly with the advent of SubD in Rhino 7. In the refinement and modification phase, parametric modeling becomes crucial for Chesco, facilitated by MatrixGold, a jewelry software that provides him the flexibility needed for swift design alterations.

EGOR GAVRILENKO’S GEM-CUTTING EXPERTISE

The Barcelona Collection extends beyond design to the realm of precision gem cutting, curated by Egor Gavrilenko. Inspired by Gaudí’s trencadís technique, Gavrilenko’s meticulous work mirrors shattered tiles, creating gems with matte edges to replicate the iconic mosaic gaps. His approach distinguishes itself from conventional methods, emphasizing precision and the artistic merit of each facet.

REVOLUTIONIZING GEM CUTTING WITH 3D SCANNING

Egor Gavrilenko sheds light on the cutting-edge technology embraced by

the Barcelona Collection—3D scanning. These advancements revolutionize the planning process for gem cutting from rough crystals. Fragments of minerals often possess irregular shapes, making it challenging to envision the ideal cut for the finished gemstone.

Incorporating 3D scanning, the rough crystal can be scanned to create a detailed 3D model. This model facilitates "virtual faceting" on the computer before the actual cut, ensuring precise planning. Egor highlights the efficiency of photogrammetry software like AliceVision Meshroom and 3DF Zephyr, providing excellent results in scanning rough crystals.

Beyond gem cutting, 3D scanning proves invaluable for jewelry designers working with unique, non-symmetrical gemstones. Sarine DiaScribe scanner captures highly accurate 3D models of cut gems. These models seamlessly integrate into design programs, allowing designers to build settings that account for the unique shapes of each gemstone.

PRESERVING SYMBOLISM IN JEWELRY

Chesco's commitment to the Barcelona Collection goes beyond aesthetics. In an era where jewelry often prioritizes fashion and

ephemerality, Díaz seeks to reclaim the symbolic essence of the art form.

The collection pays homage to influential jewelers, reviving a sense of personal and cultural expression through each carefully crafted piece. He shares, “In the ‘90s, I fell in love with the work of significant jewelers in Barcelona, such as Raimon Ollé, Aureli Bisbe, Montserrat Guardiola, Teresa Casanovas, Puigdoria… They were a significant influence on me, practicing a form of jewelry that is challenging to find today. Humbly, this collection aims to be a tribute to that generation of creators, seeking in its form an expression of art that can be worn…”

In the convergence of gem cutting, 3D scanning, and symbolic artistry, the Barcelona Collection stands as a testament to the harmonious fusion of technology and tradition, setting a precedent for the future of creative expression in jewelry design.

Chesco Díaz: Website / Email / Instagram

Egor Gavrilenko: Website / Instagram