



CASE STUDY

# FLUID LINES

*VIRGIN GALACTIC  
TERMINAL-HANGER  
AT SPACEPORT AMERICA  
TRUTH OR CONSEQUENCES, N.M.*



DIVISION 9 ENGINEERED-TO-ORDER WOOD CEILINGS

*The Virgin Galactic "Gateway to Space" terminal at Spaceport America, Truth or Consequences, N.M., is the world's first operational-ready private spaceport. 9Wood provided 3,620 SF of wood cross-piece grille ceilings and walls and 2,400 LF of trim.*

## “Timber lends an organic warmth and tactility and is adaptable as a material to different geometries.”

Virgin Galactic’s “Gateway to Space” interior fit-out of Spaceport America’s terminal-hanger in Truth or Consequences, N.M., makes the world’s first private spaceport operational-ready. The interior features curvy wood ceilings and walls made with 3,620 SF of cross-piece grilles and 2,400 LF of banana-shaped radius trim.

“The timber strips unify Gaia and Cirrus [the names respectively of the first and second floors of the terminal-hanger space] in a fluid way while organising technical requirements like acoustics and other services,” says Voon Wong, design architect at Viewport Studio, London, UK. “Timber lends an organic warmth and tactility and is adaptable as a material to different geometries.”

And, this geometry is anything but square. The walls run along curves and the ceilings have angular shapes. And, the wood species change

from dark to light going from the first to second floors.

“I thought it was never going to work,” says Henry Kingsbury, project engineer at New Mexico Acoustics and Specialties, Inc., and the project manager for the Virgin Galactic terminal-hanger building interior fit-out. “I couldn’t picture it.”

**Curves.** Work began in April 2019, after the manufacturer provided a mockup of one wall panel section for the first floor.

“Our biggest challenge was the curves,” Kingsbury says. “Everything was built on a curve.”

Fortunately, the manufacturer provided precise shop drawings. The mockup also helped the subcontractor secure a sign-off before placing the material order.

The job required a lot of field cutting to line up



*Banana-shaped soffit trim lines up with the slats of ceiling adjacent panels. Voon Wong, design architect at Viewport Studio, London, UK, says the wood unifies the space “in a fluid way while organizing technical requirements like acoustics.”*



## *PROJECT*

Virgin Galactic terminal-hanger  
at Spaceport America  
Truth or Consequences, N.M.

## *ARCHITECT OF RECORD*

RMKM Architecture  
Albuquerque, N.M.

## *DESIGN ARCHITECT*

Viewport Studio  
London, UK

## *CEILING AND WALL CONTRACTOR*

New Mexico Acoustics & Specialties, Inc.  
Albuquerque, N.M.

## *SYSTEMS*

Custom engineered wood  
ceilings from 9Wood  
Springfield, Ore.

wood slats precisely from tier to tier. While trying out several options, the subcontractor ended up cutting each slat individually. This called for careful field measurements.


"We left a ½ inch off the wall everywhere and used a 'flex mold' to mark the location of each single slat with a pencil," Kingsbury says.

**Collaborations.** Another key to success was trade collaboration.


"We had the electrical contractor put their light fixtures in loose so we could line them up with our panels," Kingsbury says. "Sometimes a row of lights ran along the same line as our panel slats. But we couldn't always tell the exact points where the lights would be."

The mechanics cut two holes for a recessed light every 4 feet.

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EVERYTHING WAS BUILT ON A CURVE.* ”



The installer used a 1/8" jig to create space for the darker-stained wood trim placed between wood grilles above and below.



Some ceilings feature mirrors and wood grilles, which were lined up with precision and care.

"The cuts had to be perfect — and stained, because the lights sit above the wood," Kingsbury says.

**Improvisations.** The starting point for the wood ceiling grilles was provided by the manufacturer in detailed shop drawings.

"Two center points served as the start of the only straight lines on the job — an 8 ft. line one way, and another the opposite way," Kingsbury says.

As installation got underway, the subcontractor cut shorter grille panels first and saved longer ones for later.

"When we figured out that a 'P5' would work and [the manufacturer] had us using 'P6s', we'd jump to the 'P5s'," Kingsbury says. "I'd wanted save those longer 'P6s' in case we needed them somewhere else."

Sometimes crews worked over furniture, since it arrived early. Sometimes they straddled different flooring heights. Sometimes they built access to mechanical systems on the fly.

"We had to 'MacGyver' a door with hat channel and screws," Kingsbury says. "Remove six screws, and you can take out a row of panels."



The lounge features an Italian marble bar finished with a light-colored oak. 9Wood's custom cherry-stained wood grille is visible above.



The curvy Spaceport America terminal-hanger building uses wood inside for its warmth and sustainability, the design architect says.



Cross-piece wood grille ceilings, walls and soffits follow lines and curves in all directions, shown here during their installation.



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