

Kinetica's Triumph at Expo Dubai

In the realm of architectural innovation, [Kinetica](#), a Mexican firm, has left an indelible mark with its groundbreaking contributions to the Expo Dubai 2020 project. Commissioned to build 42 AV and sound pods to a 140-meter-diameter video mapping dome – the centerpiece of the Expo – Kinetica's team faced a multifaceted challenge that demanded unparalleled creativity, precision, and adaptability.



BUILDING THE PODS

For this colossal undertaking, Kinetica's team crafted 42 bespoke aluminum pods resembling airplane turbines that housed intricate technology, including high-tech laser projectors, MEP, and 10 tons of air conditioning.







Each pod's aluminum structure, with a double curvature, showcased the firm's mastery in the hydro-forming process, utilizing a custom-made machine to shape metal with high-pressure liquid.

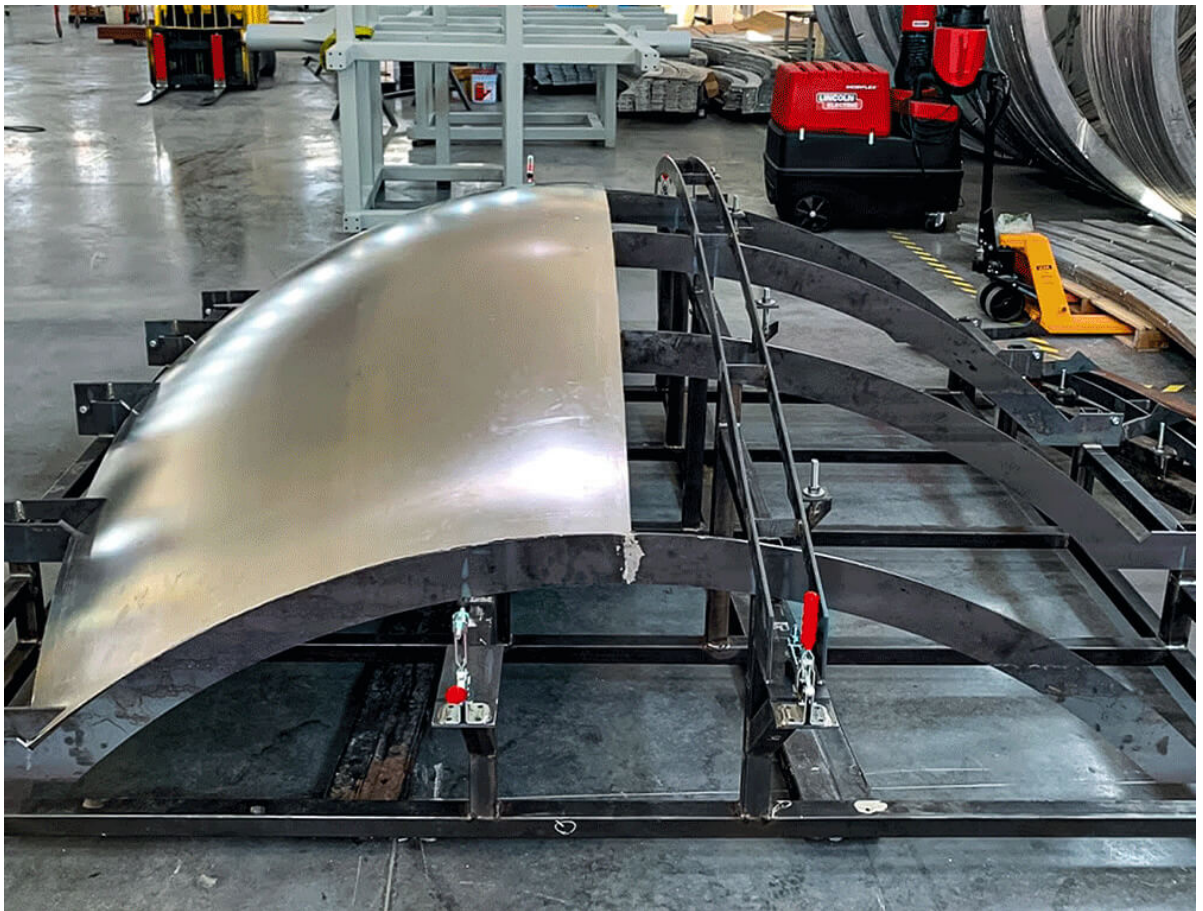
In an exclusive interview, Leonardo Arenas, head of Kinetica's Computational Design department, emphasized the company's distinctive approach. Kinetica stands out by merging industrial design creativity with practical fabrication prowess, tackling projects with a multidisciplinary team comprising architects, engineers, and industrial designers.

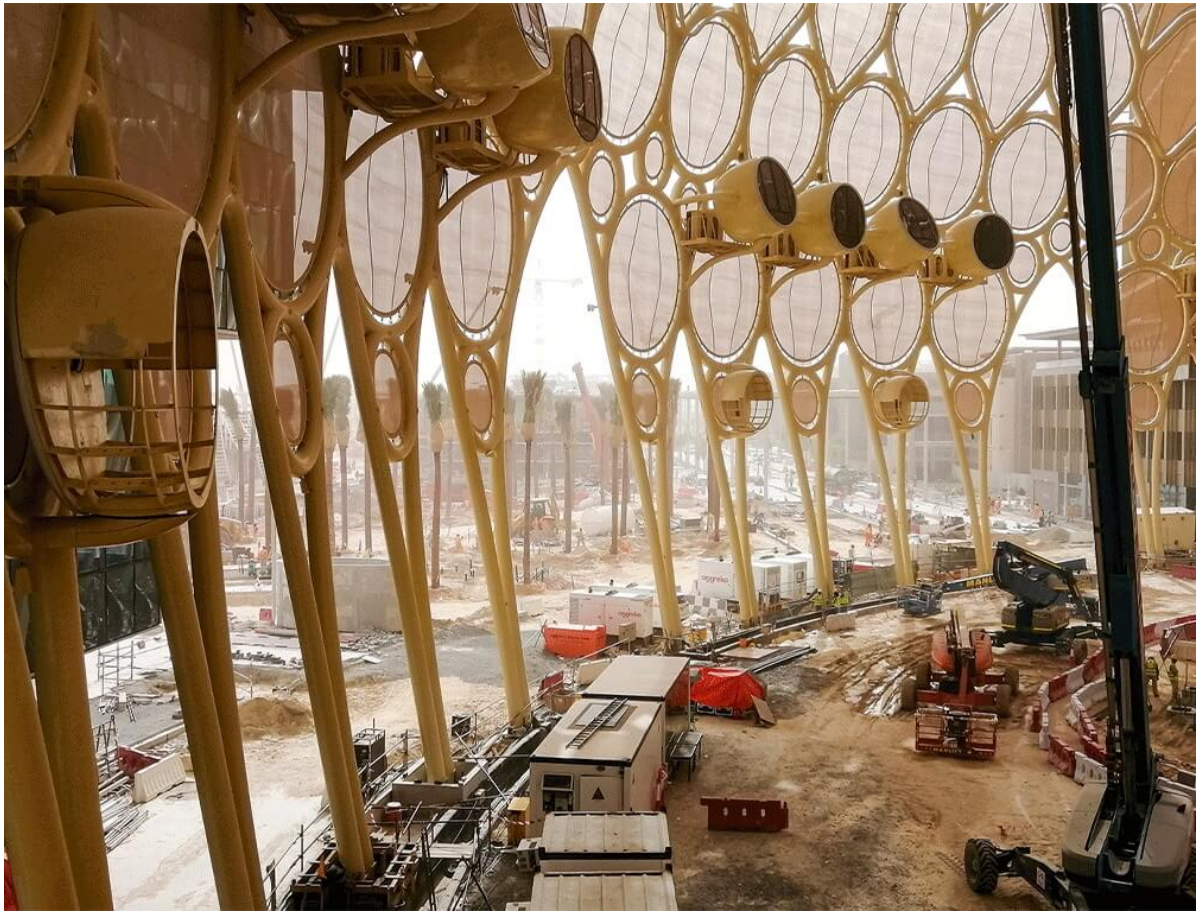
INNOVATIVE COLLABORATION & INTERNATIONAL INTEGRATION

Highlighting the international collaboration, the 360-degree projection screen, the world's largest, was a collaborative effort involving materials from East Europe, fabric from the US, and the fabrication of pods in Monterey, Mexico. This mixture, led by AS+GG

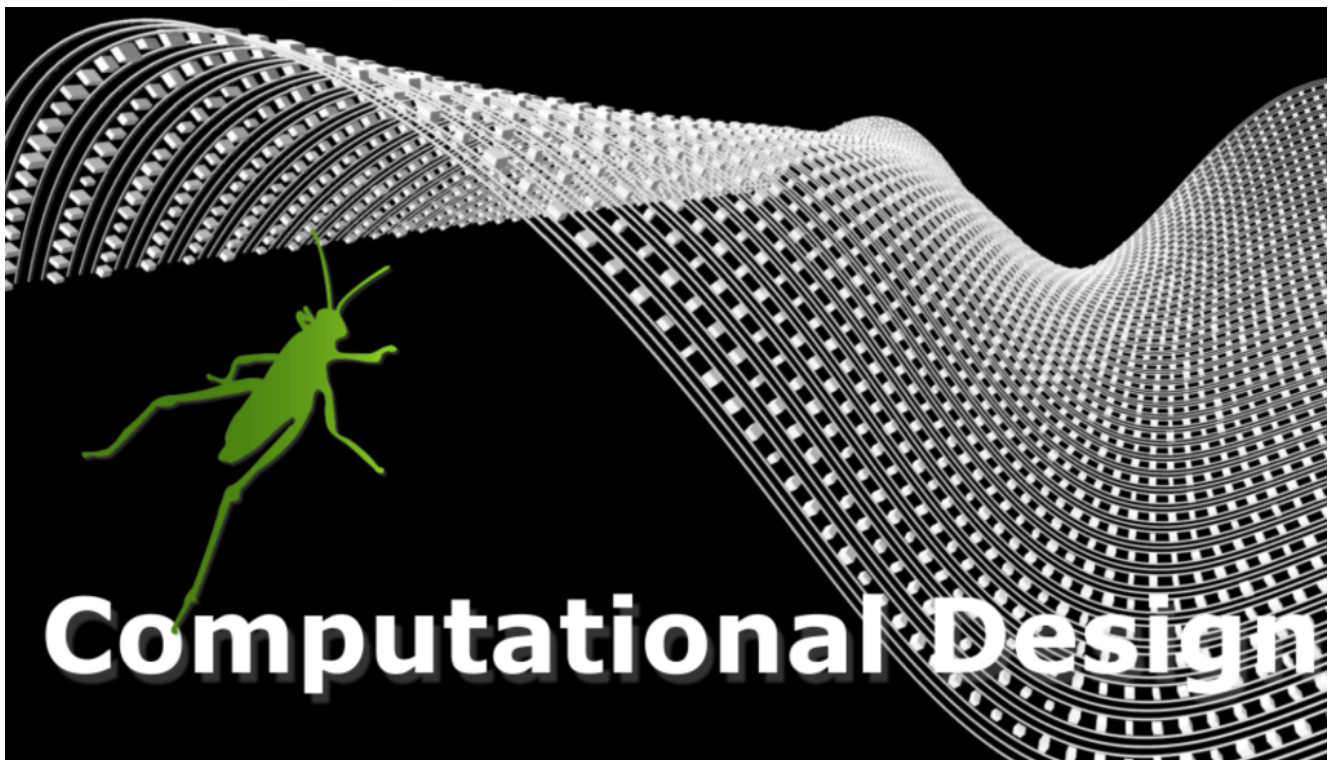
(Adrian Smith + Gordon Gill Architecture), showcases Kinetica's ability to integrate components from diverse locations seamlessly.







Collaborating globally demands effective communication, a philosophy engrained in Kinetica's ethos. The company uses 3D models as a universal language, ensuring clarity and precision throughout the project's lifecycle. Kinetica's adaptability shines through in overcoming challenges, such as efficiently transporting pods via the world's largest cargo plane, the Antonov AN 124, and ensuring the integrity of the glassing system amid altitude-related pressure changes.



[See Also](#)

[COMPUTATIONAL DESIGN WITH GRASSHOPPER](#)

Take a look at [Kinetica's innovative hydro-forming process](#) and witness high-pressure liquid-shaping aluminum into the stunning double curvature for Expo Dubai's iconic pods.

PARAMETRIC DESIGN, A KEY PLAYER IN SUCCESS

Kinetica's utilization of parametric design, specifically Rhino and Grasshopper, played a pivotal role. These tools enabled the team to

streamline complex processes, from optimizing pod orientation to simulating the hydroforming process. The integration of Grasshopper's Galapagos plugin facilitated the efficient design of the doors' movement systems.





CLIENT SATISFACTION & FUTURE ASPIRATIONS

The Expo Dubai 2020 project received widespread acclaim from clients, architects, and organizers. Kinetica's ability to transcend technical limits through creative solutions left an indelible mark on the global stage. The success of this venture has propelled Kinetica to set its sights on larger and more complex projects, armed with newfound knowledge in international cooperation, adaptability, and innovative project management.

Looking ahead, the experience gained from Expo Dubai 2020 positions Kinetica as a global player with a heightened ability to navigate diverse markets and uphold its commitment to pushing the boundaries of architectural fabrication.

As a versatile and forward-thinking industry leader, Kinetica continues to innovate, ensuring its legacy as a trailblazer in the fusion of creativity and precision in architectural design and fabrication.