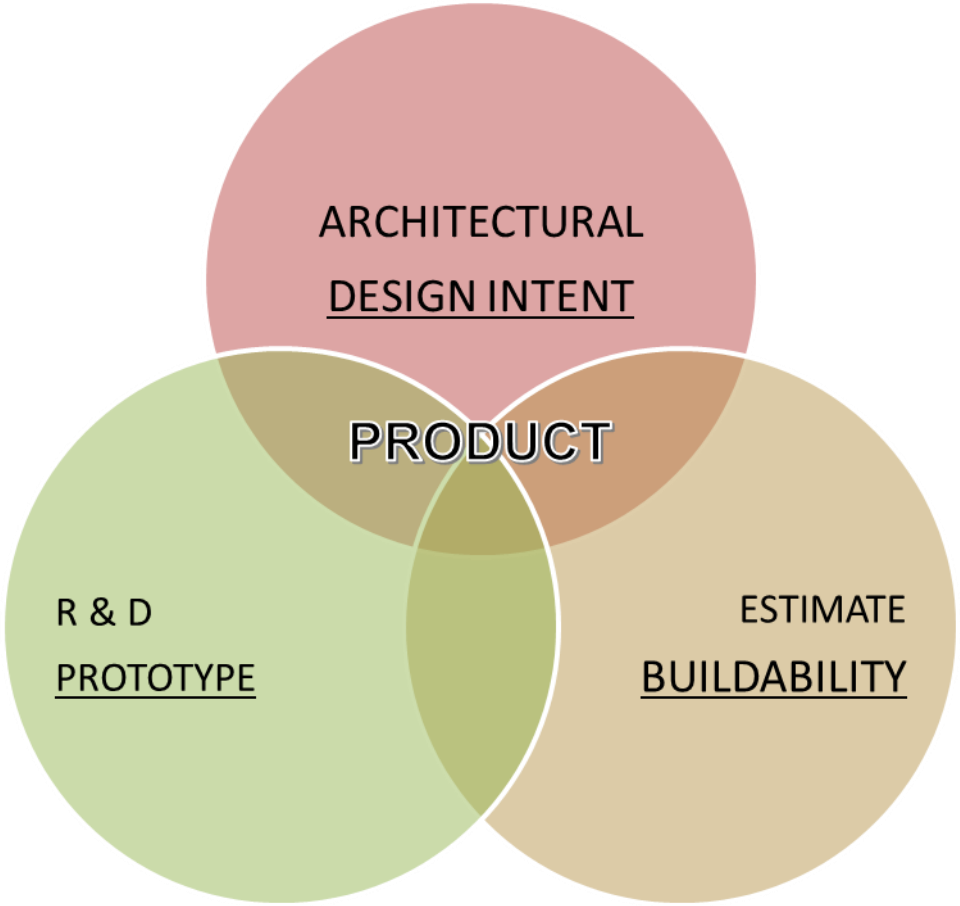
Installation ART

APPROACH = ENGINEER + TEST & BUILD



STUDIO ray SYNTHESIS

PARAMETRIC DESIGN

3D SCULPTING

3D STEEL PRODUCTION

STRUCTURAL ANALYSIS

Rhinoceros

SolidWorks

AVEVA BOCAD

MEPLA
Software for Structural Glass Design

grasshopper®
GENERATIVE MODELING FOR RHINO

AUTODESK® INVENTOR®

AUTODESK® NASTRAN® IN-CAD

PRODUCTION NESTING

lantek

AUTOCAD®

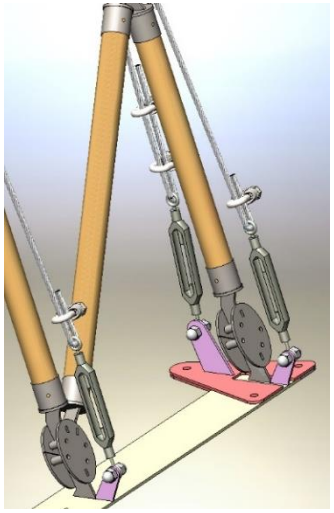
STUDIO ray SYNTHESIS

APPLIED MATERIALS R & D

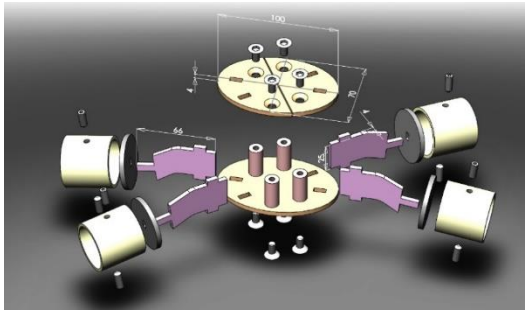
STUDIO ray SYNTHESIS

PROJECT: AMAZON R & R.
Bangalore, INDIA.
Architects**: RAJ Consultants + IA**

LATTICE TUNNEL
BAMBOO



Bamboo-tecture NODE:
Patent Application 201641009829



FREE STANDING TENSILE CABLE REINFORCED BAMBOO LATTICE TUNNEL

Sustainably grown & hand-cut 300 bamboo struts, seasoned & sourced from artists community in West Bengal, Siliguri.

170 patent applied LASER Cut non-rigid nodes on site assembled & painted.

Site Improvisation:

Deflection control & rigidity achieved empirically at site with 6mm Dia. multi-strand plated steel cables post-tensioned with custom made SS 304 turn buckles. Steel Base plates anchored to slab with 150mm length M10 SS chemical anchors.

Duration: Design, R & D to Installation – 4 Months.

STUDIO ray SYNTHESIS

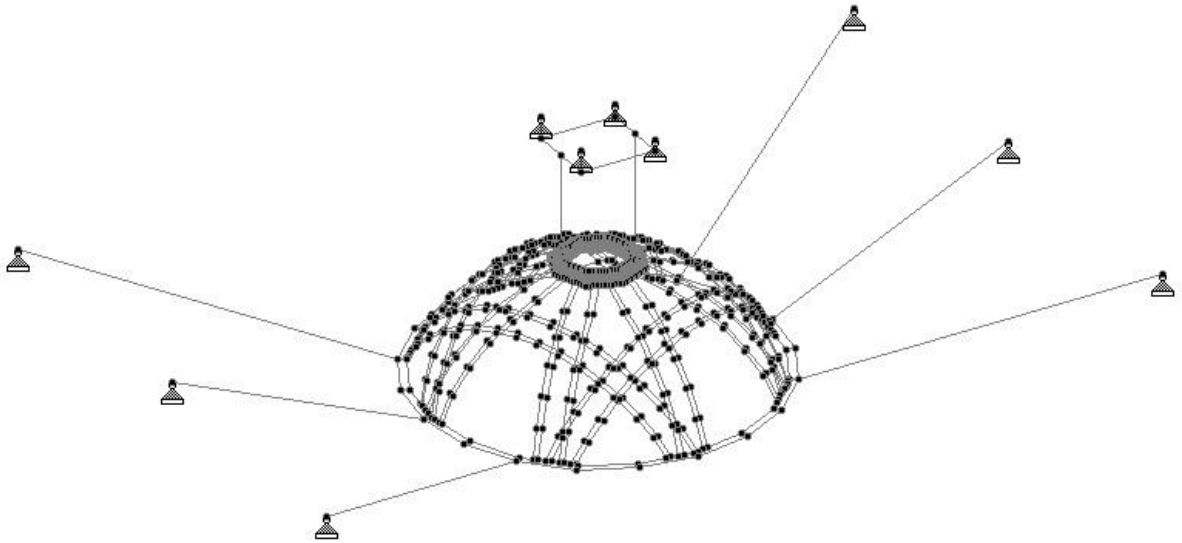
Vernacular craft + Digital Fabrication = Engineered Art

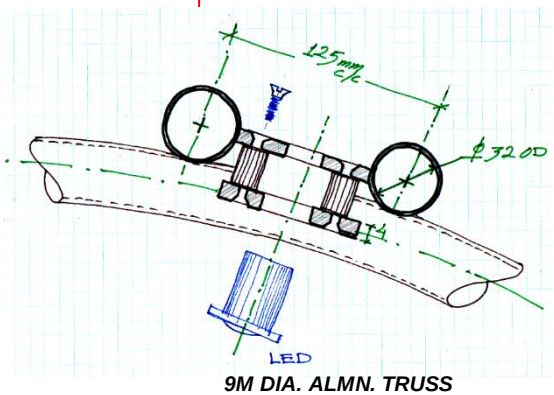
WWW.SRAYS.IN

SEA WOODS MALL - FEATURE DOME.
Mumbai, INDIA.
Architects: **SYNERGY + RAWL**

9M Ø DOME

ALMN. CHS



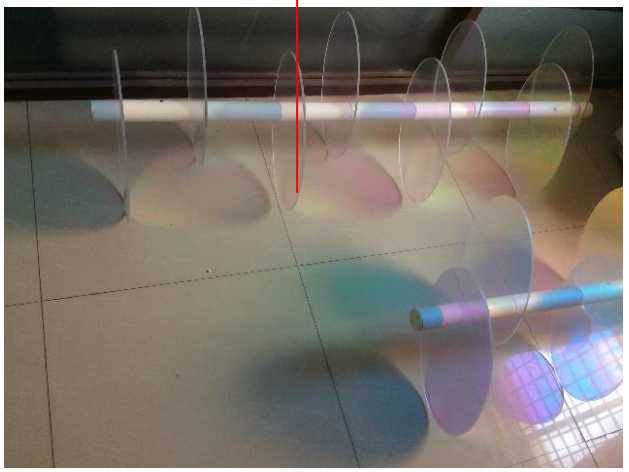


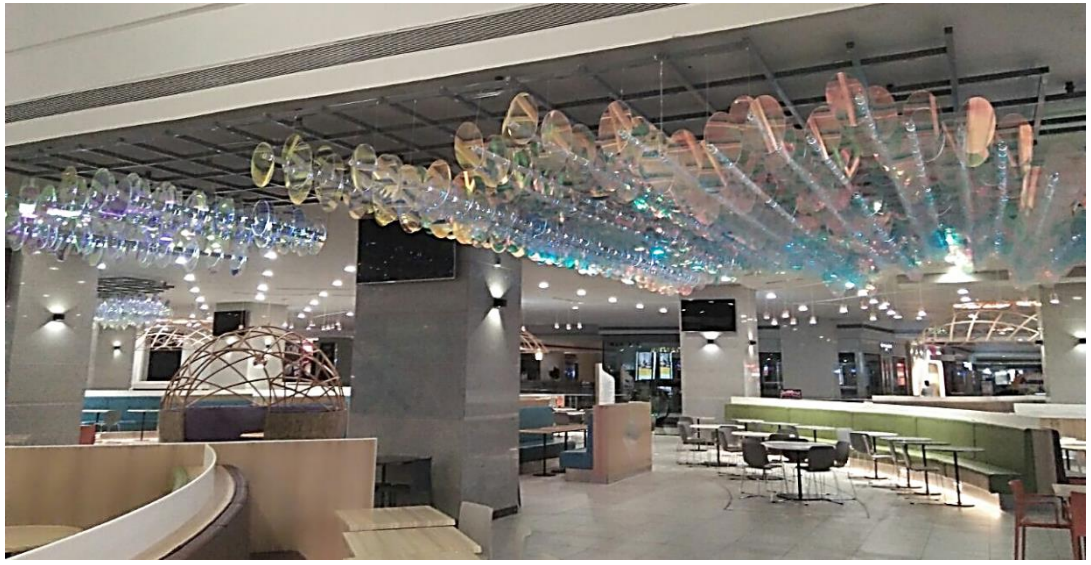
9M DIA. ALMN. TRUSS DOME.
SUSPENDED FROM CEILING WITH TENDONS.
CUSTOM MADE LIGHTING INSTALLATION

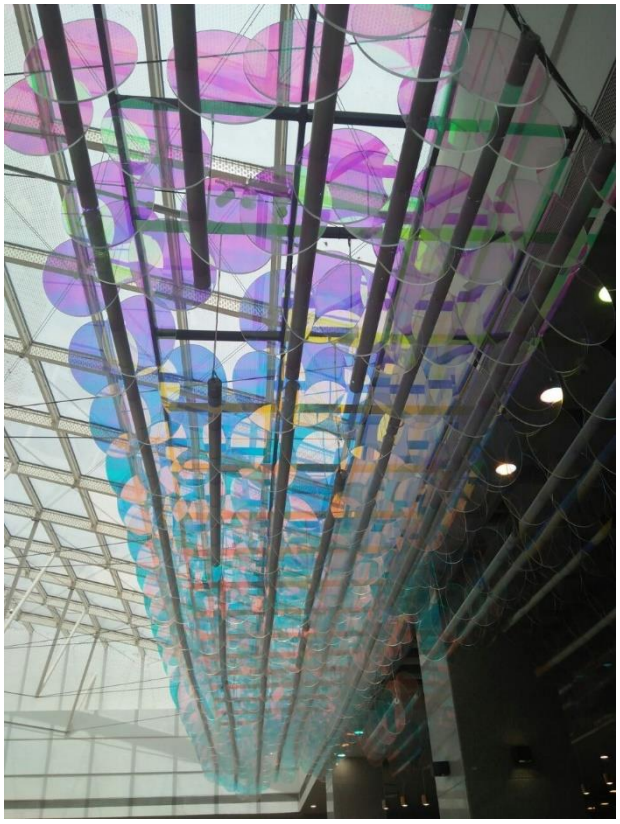
STUDIO ray SYNTHESIS

SEA WOODS MALL - DICHROIC LIGHTING.
Mumbai, INDIA.
Architects: **SYNERGY + RAWL**

CLOUD CLUSTERS
DICHROIC



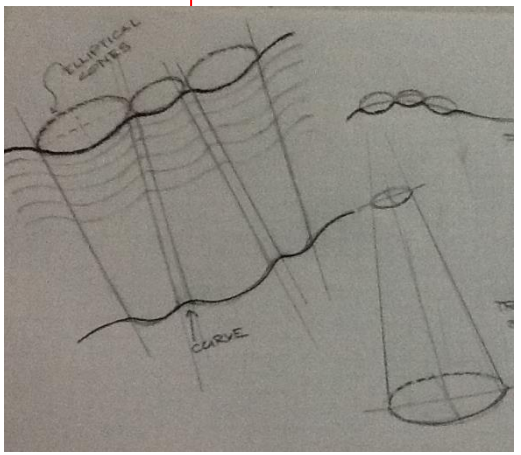




STUDIO ray SYNTHESIS

TAMARAI TECH PARK, TEC RECEPTION.
Chennai, INDIA.
Architect: **atelier**

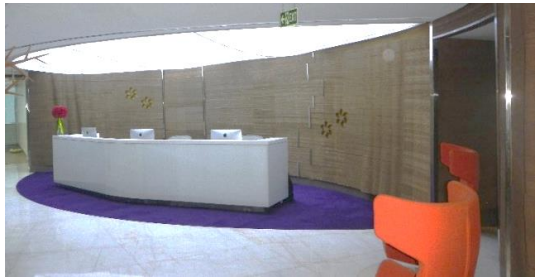
FEATURE WALL
CARDBOARD

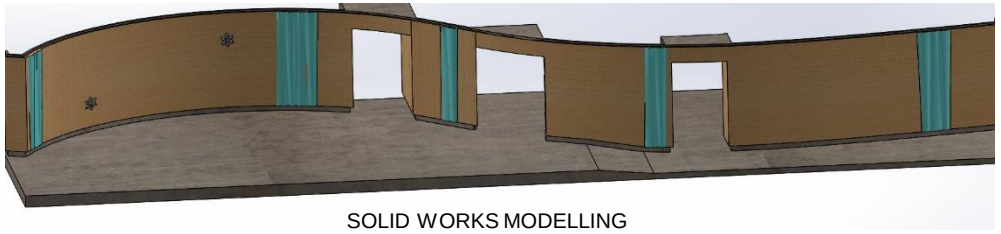


CNC PROFILE CUT, STACKED CARDBOARD 3D FEATURE WALL:

We took a simple recycled packaging material & used it in an extremely complex way.....

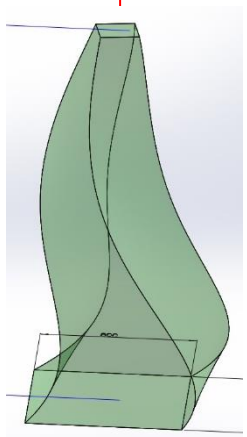
Jute & Coir Rope reinforced; **20,000 CNC cut corrugated cardboard** profiles stacked to form a 3D feature wall.





SOLID WORKS MODELLING

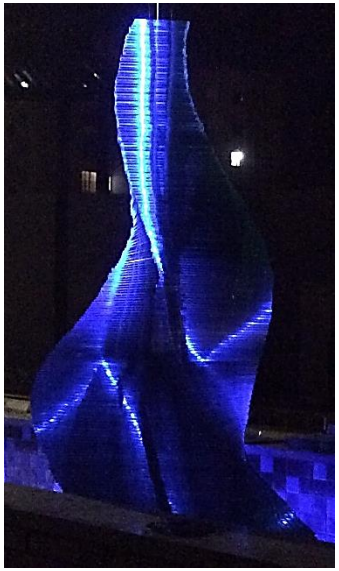
STUDIO ray SYNTHESIS

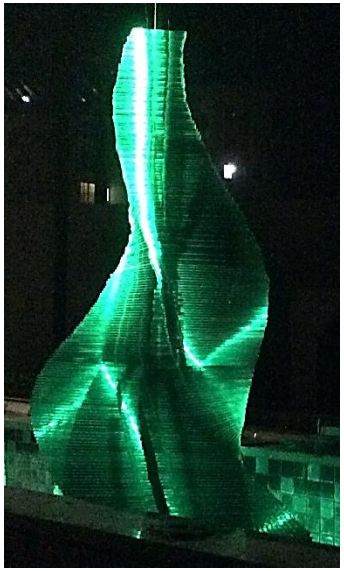


SOLID WORKS MODELLING

STACKED GLASS SCULPUTERS:

850 CNC cut float glass plates stacked with internally SS cables post tensioned at site. IP67 LED lighting through the core.

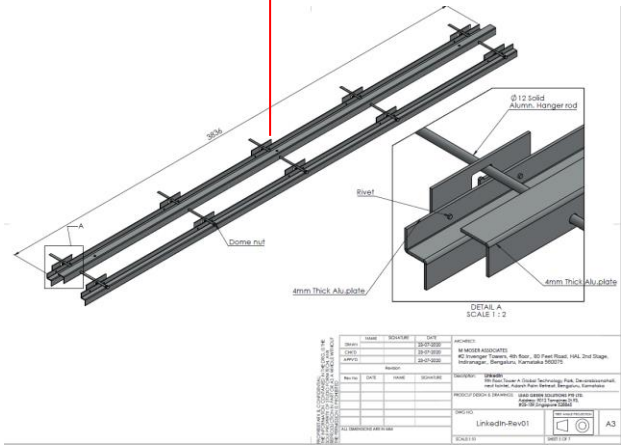




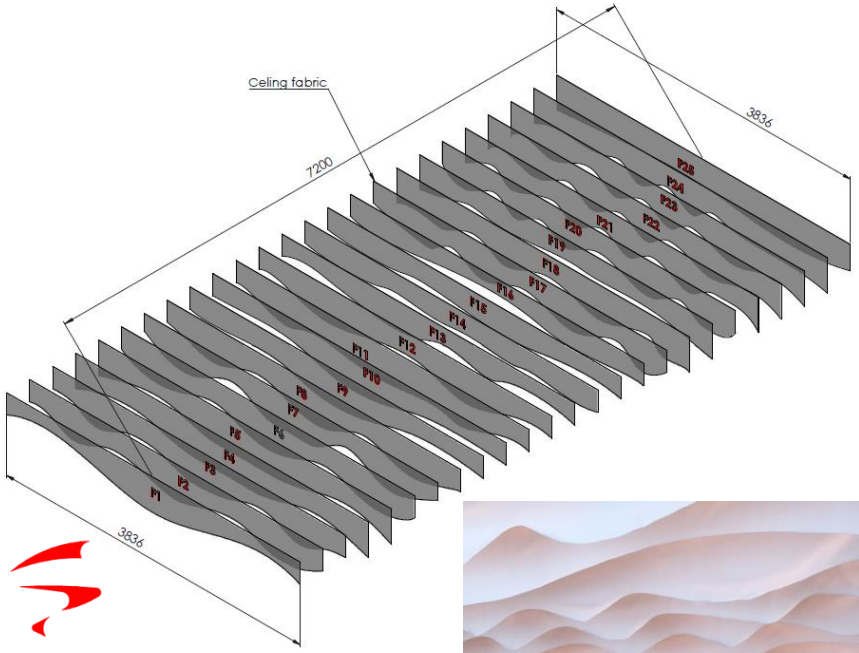
STUDIO ray SYNTHESIS

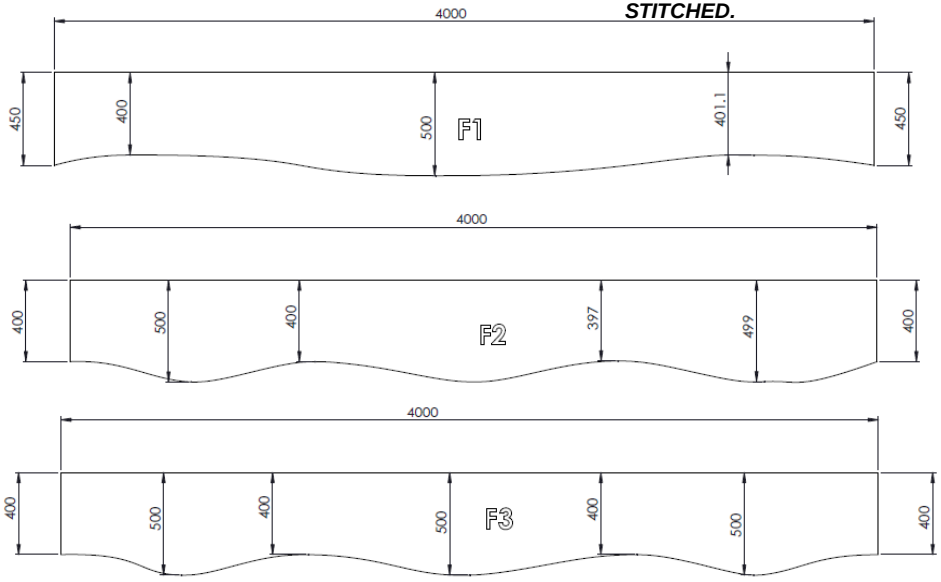
LinkedIn - FEATURE CEILING.
Bangalore, INDIA.
Architects: **MOSER**

WAVE BAFFLE
TEXTILE



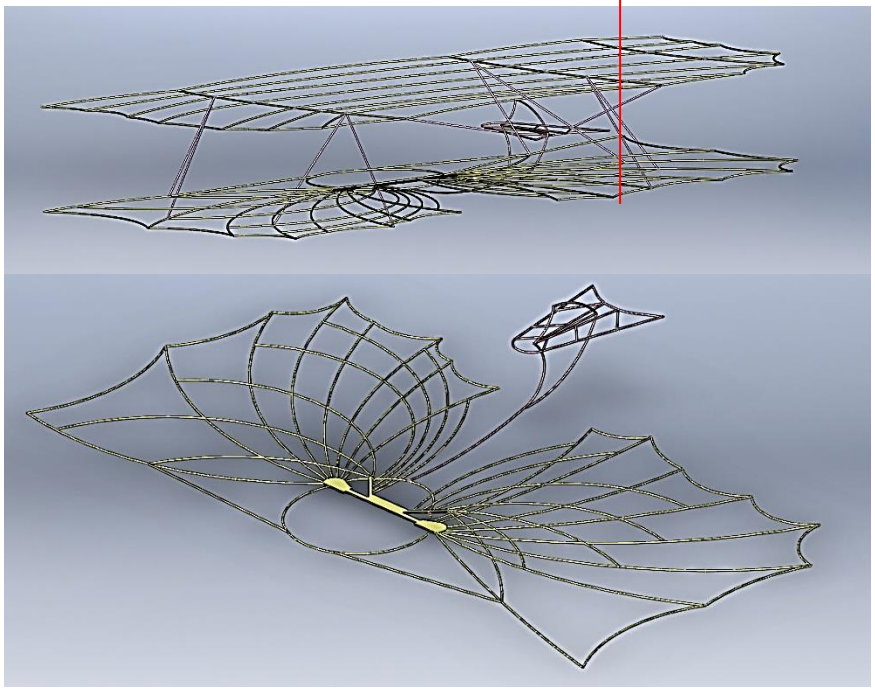
PRE-FAB. MODULAR ALMN. TRUSS. LED ACCENT ILLUMINATION INTEGRATED. LINEN FABRIC PROFILE CUT & STITCHED.



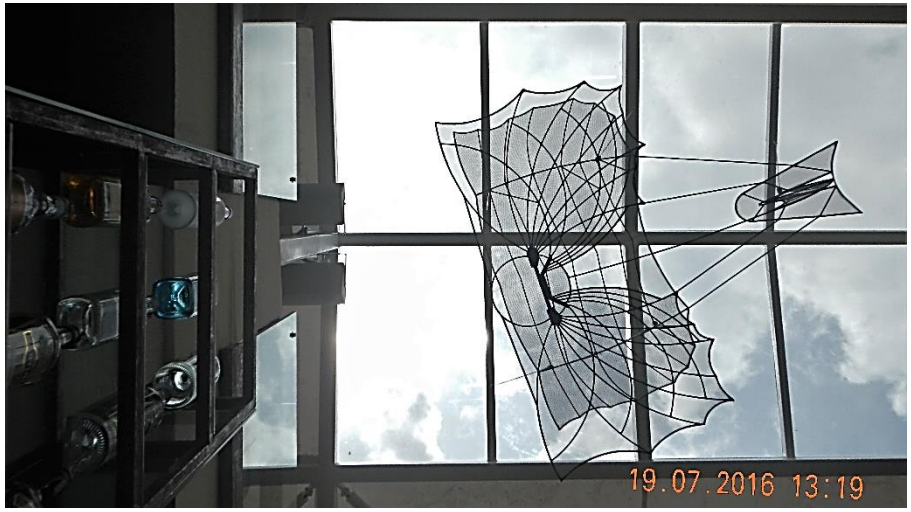


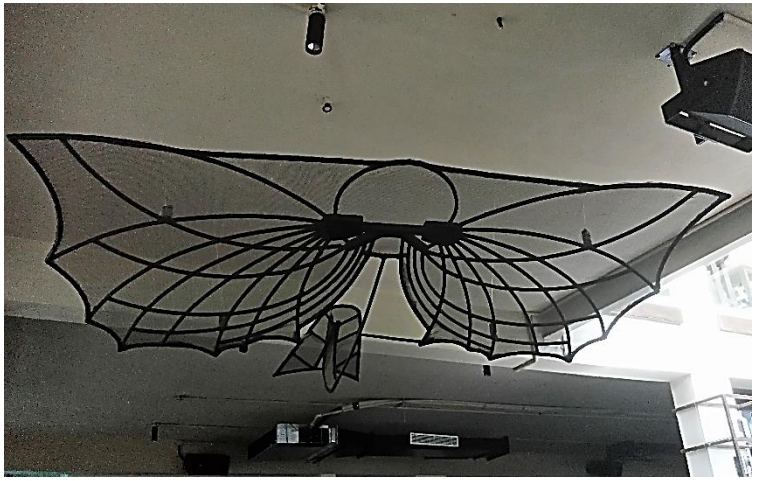
STUDIO ray SYNTHESIS

W W W . S R A Y S . I N



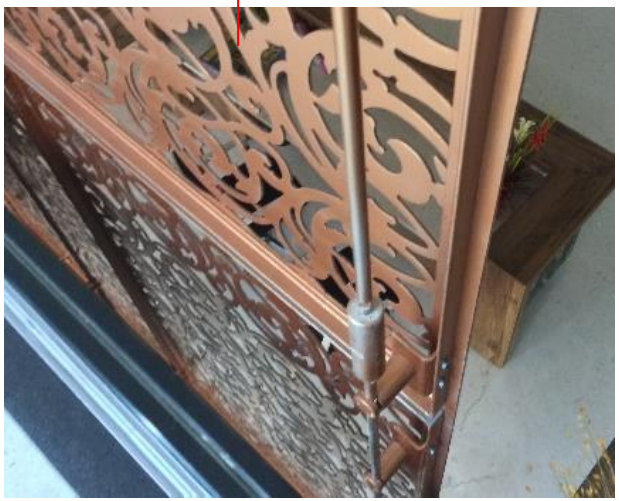
PAINTED SOLID STEEL TUBE
MANUALLY BENT



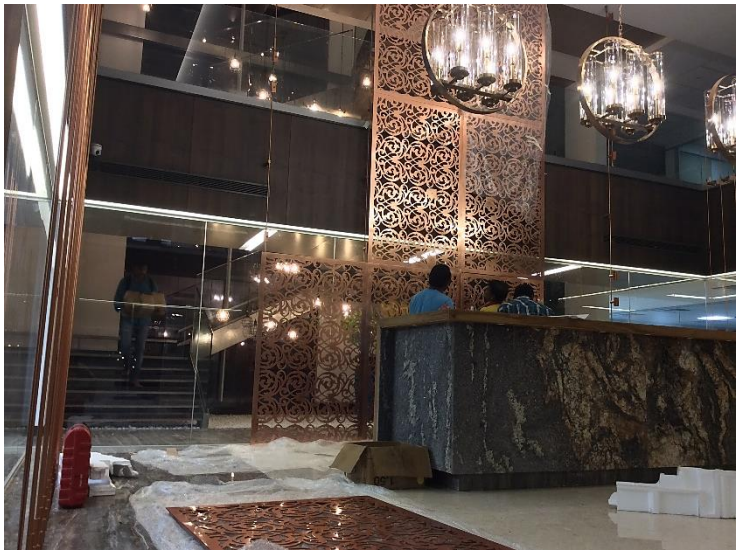


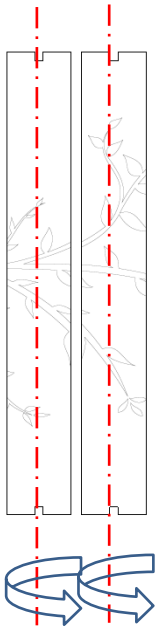
COPPER SHEET POLISHING

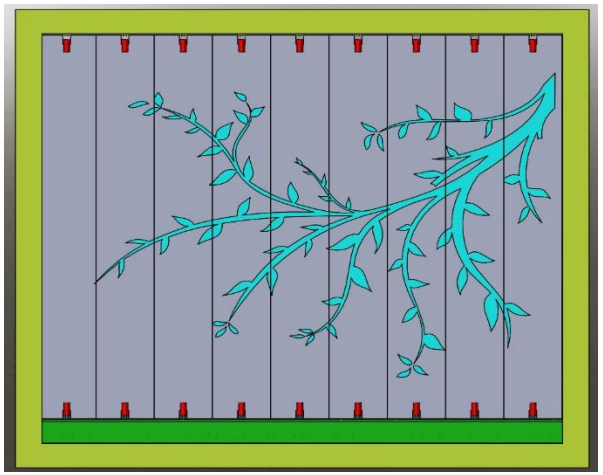
CUSTOM MADE
TENSION RODS - CLAMPING



ON SITE PANEL INSTALLATION





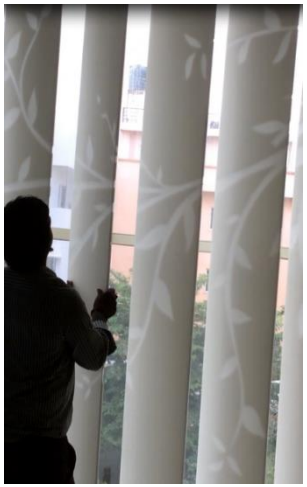


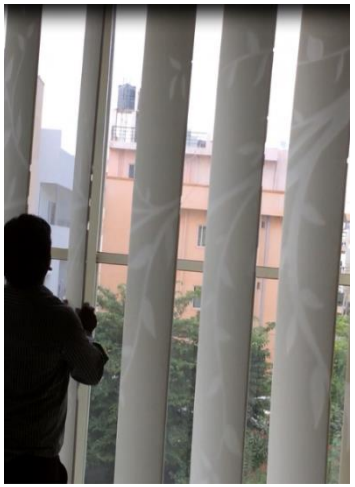
CUSTOM ROUTED DuPont
DELRIN GEARS

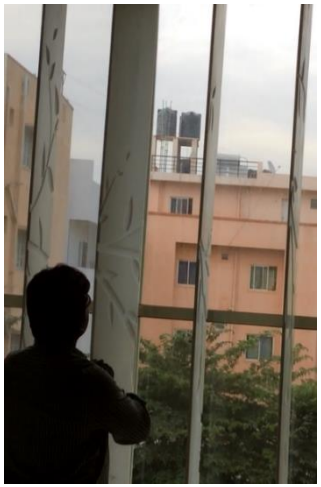
GLASS REINFORCED
CORIAN LOUVERS:

12mm Glacier Ice CNC Routed Louver Blades laminated to 6mm Tempered Glass.

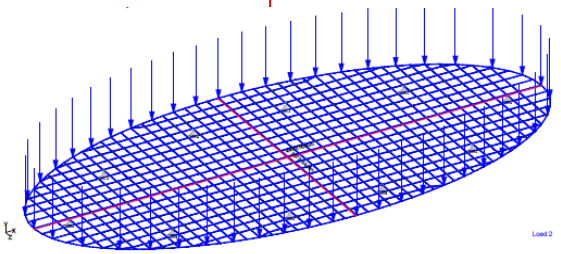
Custom made SS 304 Louver patches on axial bearing connection to Delrin routed gears.

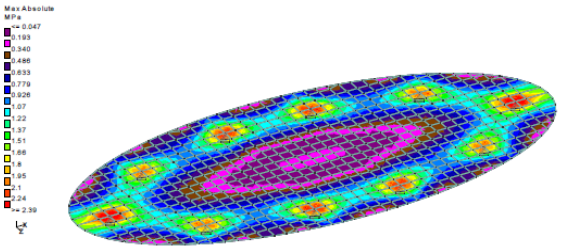






STUDIO ray SYNTHESIS





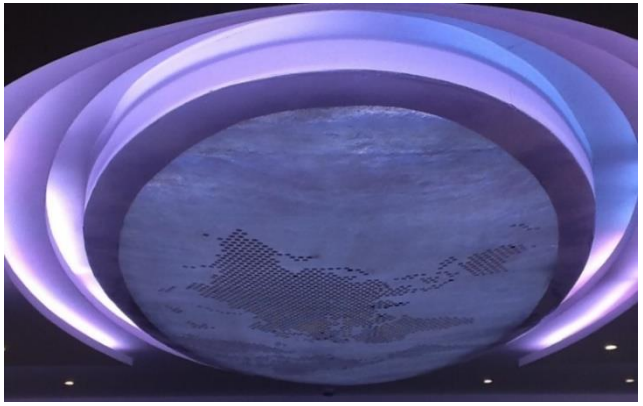
RGB LED BACKLIT SUSPENDED FRP DOME

The scope of work was to design, build & install 2 FRP domes of 4.4M X 2M. The colour theme keeps changing during the course of the day.

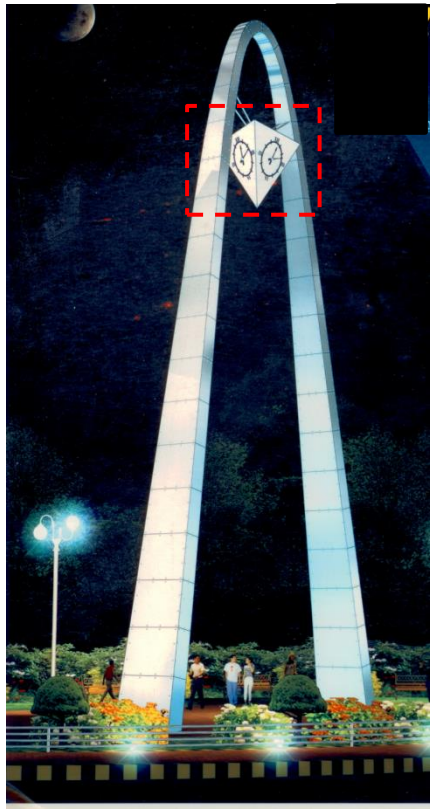
FRP Specs: 8mm Thk. with perimeter reinforcement & PVC coated multi strand SS cable hangers.

Lighting: RGB LED with DMX control interface.

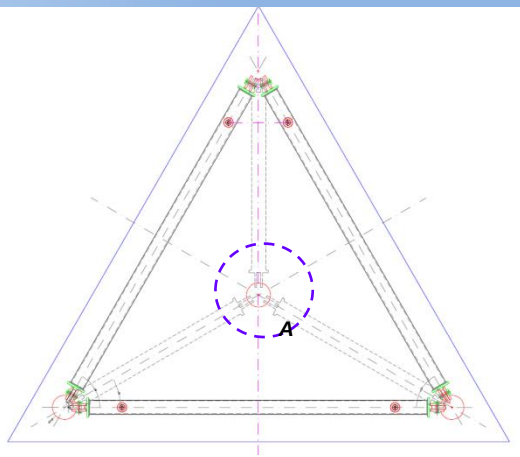
DOME BEING IALLIGNED



DOME RGB LED BACKLIT

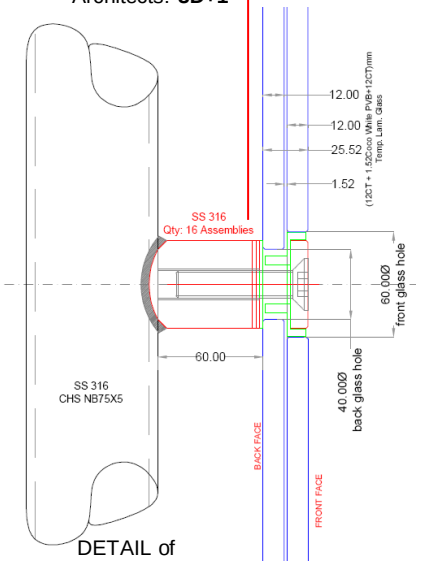


CONCEPT



PLAN of SS CHS STRUCTURE

NODE DETAIL at 'A'



DETAIL of
POINT FIXING

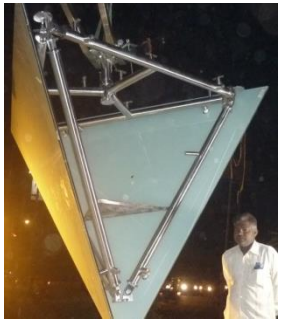
SUSPENDED PYRAMIDAL GLASS CLOCK DIAL

The scope of work was to design & detail all components of the glass pyramid.

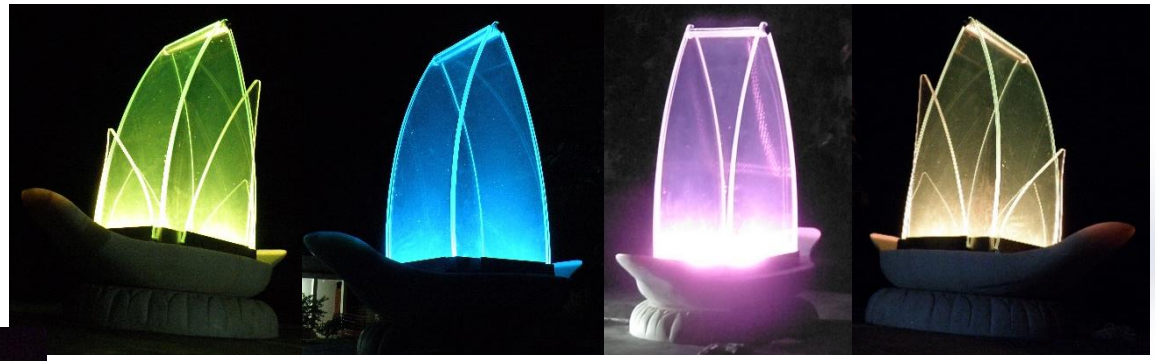
Glass specs: (12CT+2Coco White opaque PVB+12CT)mm. Glass supplied by Impact Safety Glass Works, Bangalore.

Installation was done by Aasptek.

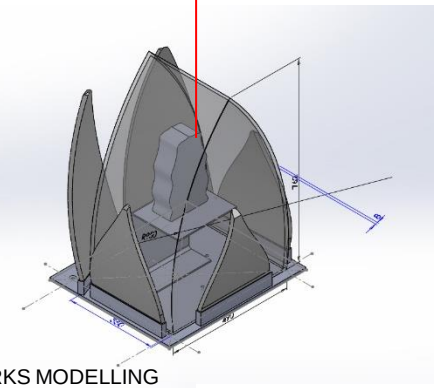
INSTALLATION in PROGRESS



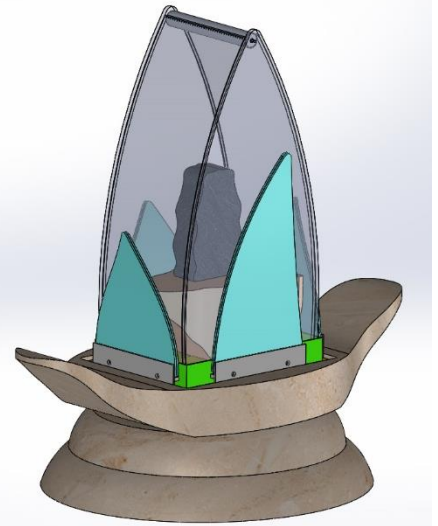
STUDIO ray SYNTHESIS



SOUND RESPONSIVE RGB LED ILLUMINATION



SOLID WORKS MODELLING



LED ILLUMINATED GLASS & MARBLE SCULPTURE

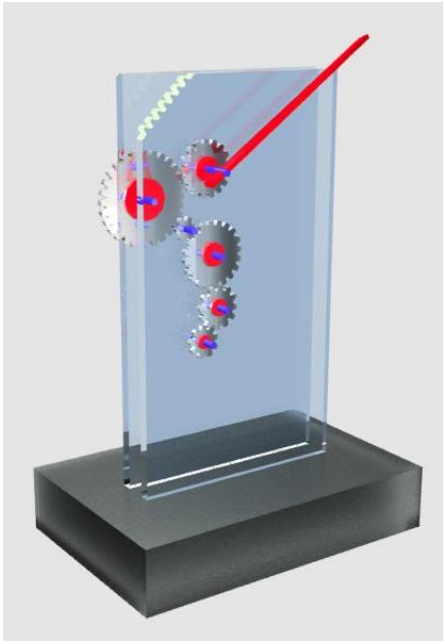
The scope of work was to design, build & install a spiritual themed sculpture.

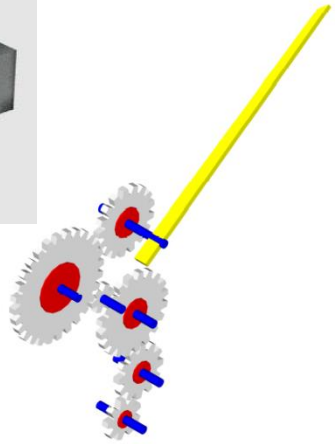
The marble base was a combination of CNC machining with hand finishing.

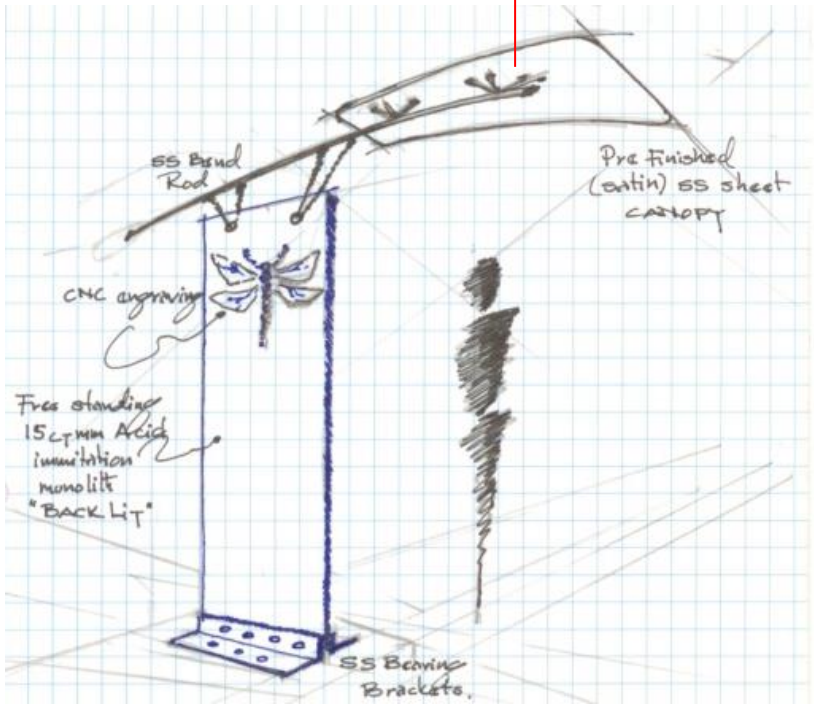
The glass elements were gravity bent low-iron extra clear EVA laminated. Assembled with custom made SS 316 Grade base & hardware.

Lighting: RGB LED with AUDIO SYNCH INTERFACE

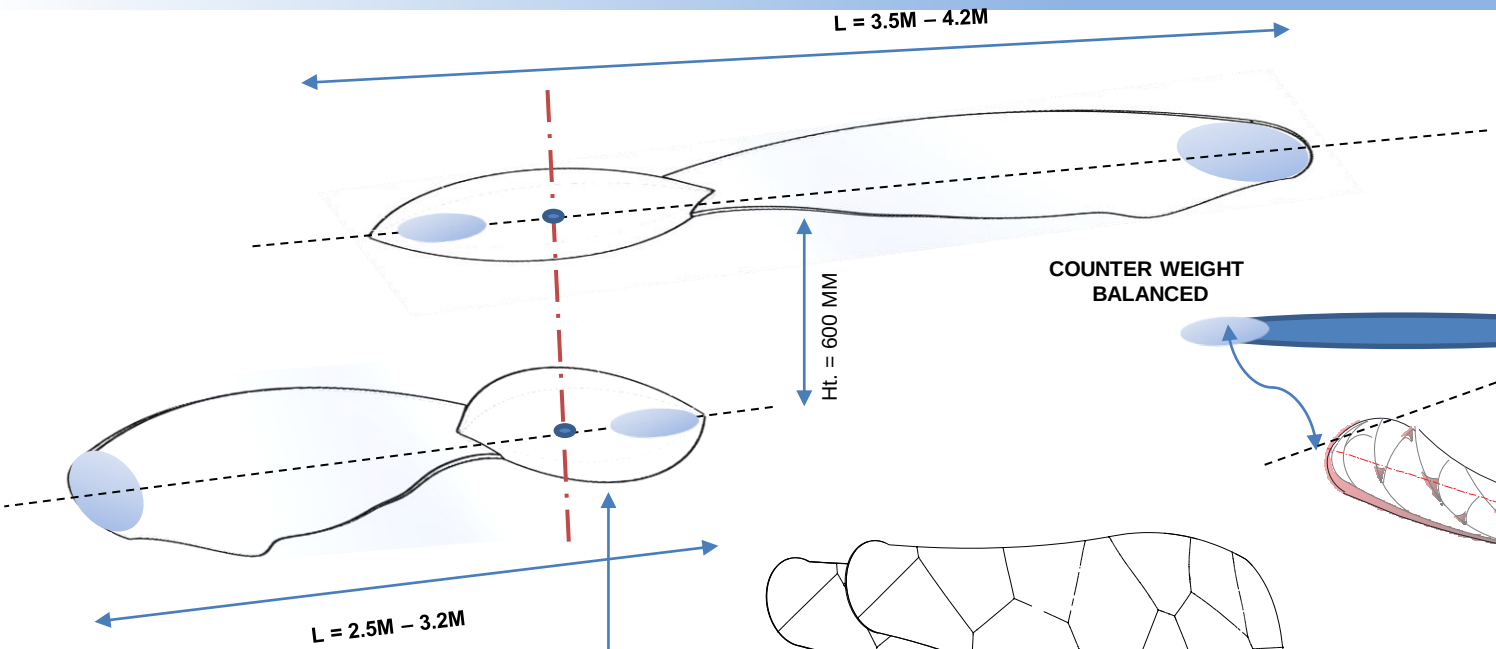
Work in Progress

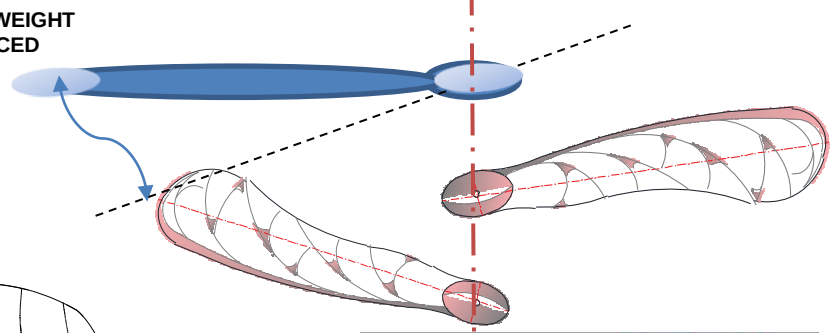


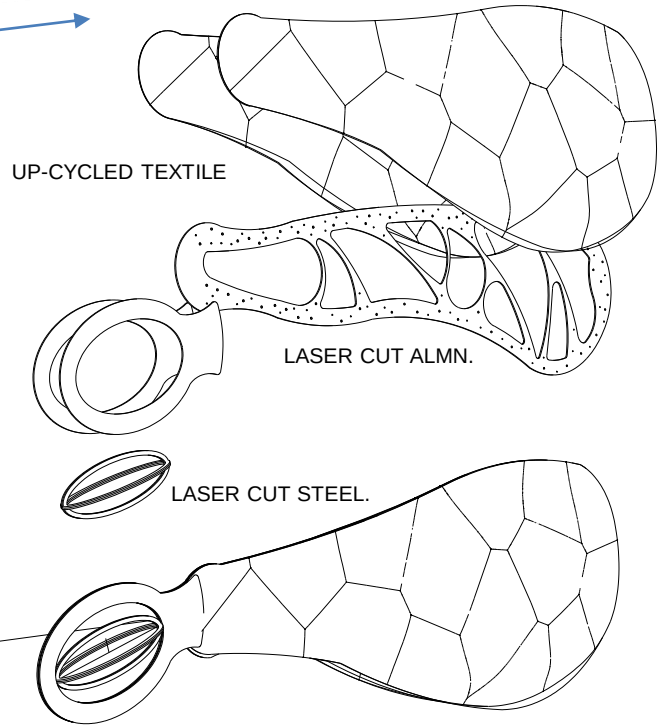


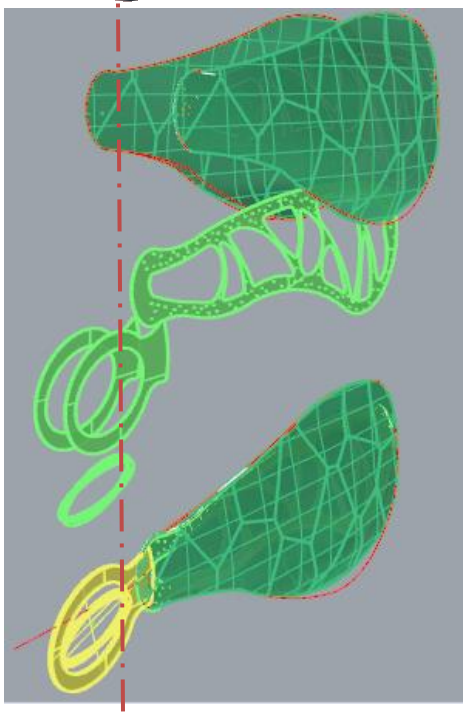


STUDIO ray SYNTHESIS

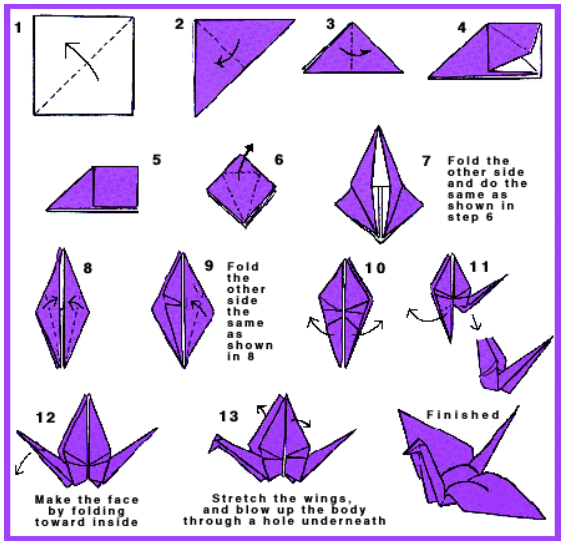


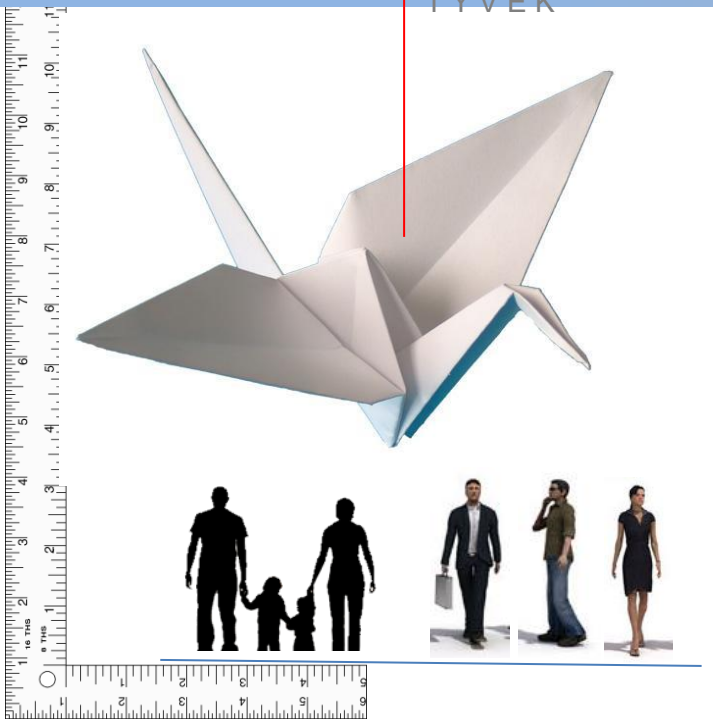






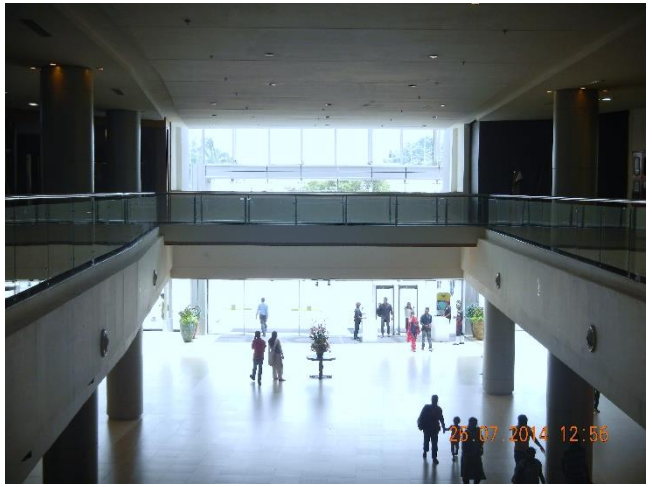
STUDIO ray SYNTHESIS



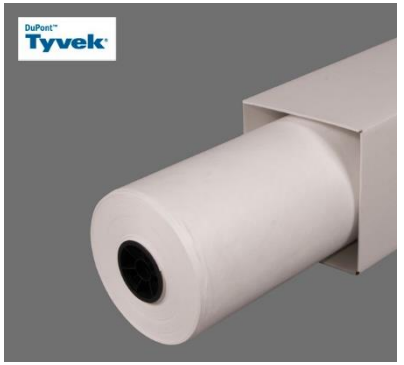


FIBER OPTIC ILLUMINATED

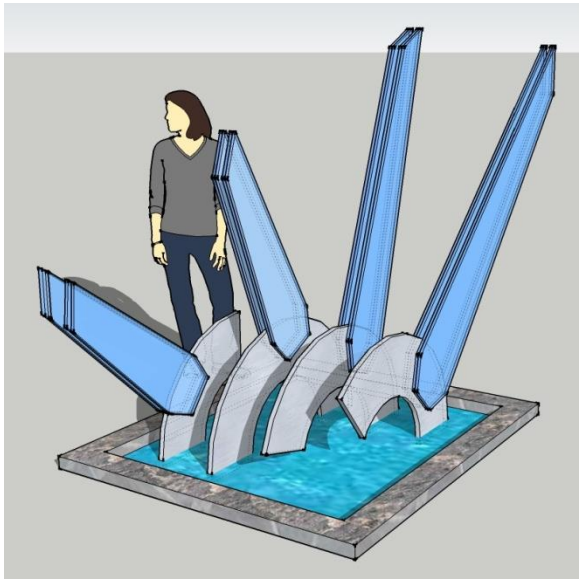
TENSILE NYLON FIBRE SUSPENDED

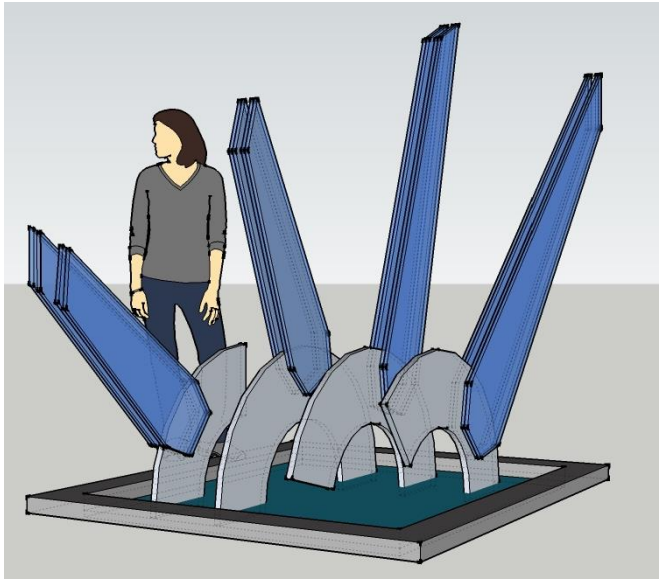


DUPONT
The miracles of science™

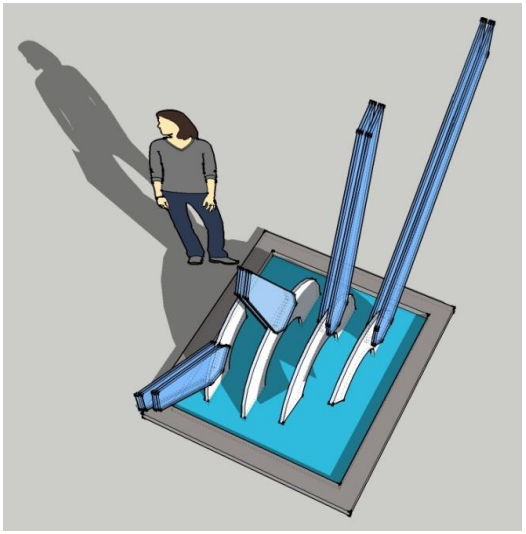


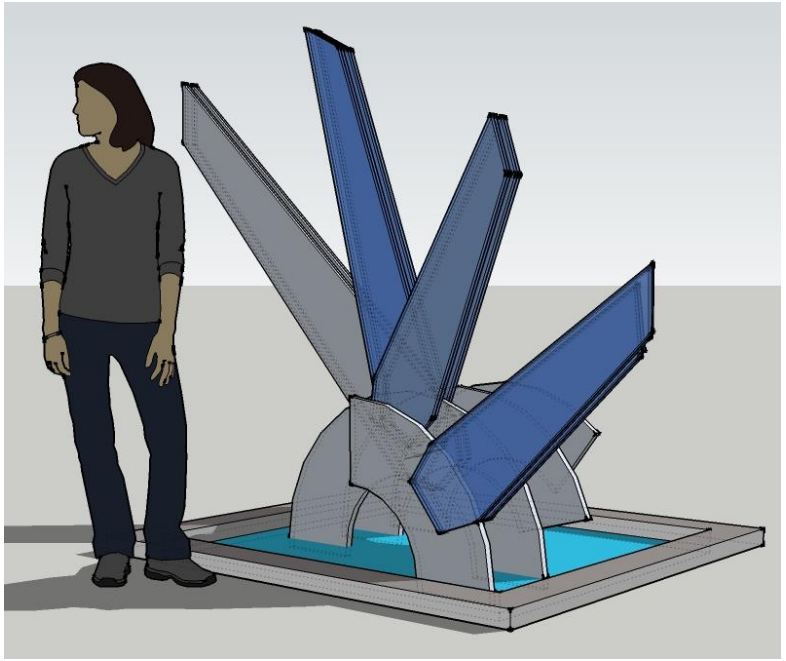
STUDIO ray SYNTHESIS





POINT FIXED CANTILEVERED SGP
LAMINATED GLASS BLADES





UTTARAN BAIDYA RAY : **PRINCIPAL** AT **STUDIO RAY SYNTHESIS**

QUALIFICATION: **B. Arch - 1998** (Bachelor of Architecture, MIT Manipal, Mangalore University, India)

CAREER TIME LINE:

2000 – 2007 Consulting Architect to Impact Safety Glass Works, (Industrial Architecture.)

Parallel Practice of Architecture + Glass Engineering

2003 – 2007 Impact Design Cell (Glass Engineering Contracts Division) Design Director

Application Architect (consultant) to DuPont India, Solid Surfaces.

2008 – 2011 Permasteelisa India Pvt Ltd. Design Manager for Special Works,

2011 – Studio Form Techniques Pvt. Ltd. Founder & Managing Director.

REFERENCES:

Phil Davis – DuPont, Australia. **Dr. Rajam Sankaran** – CSIRO, Australia.
Samy Hanna Helmy – Global Tech Design, Singapore.

Ar. Venkatramanan Snr. (Founder VA Architects, Bangalore.)

Thomas Henriksen - Director Design & Research Seele, Austria

EXPERIENCE:

With an overall 20 years of experience in engineered glass design & turnkey contracting, understanding working with various other composite materials & fabrication methods is not a challenge.

VISION:

To provide multi-disciplinary design solutions by integrating emerging technology.

MISSION:

To be the market leaders in the advanced architectural engineering segment. **To steer the company as a corporate entity that will take "innovation India" to the rest of the world.**

PROFILE

Uttaran B Ray has a hands-on approach to almost all of life's challenges.

A firm believer in empowering & mentoring talented colleagues who have the potential of being future leaders.

Early Influences:

His primary school education in Australia (Tasmania, Hobart) had exposed him to the importance of developing practical skills in all aspects of any profession. His syllabus in high school included wood work, metal work and even cooking & sewing.

It was during this period he developed skill of putting things together with his hands. His hobbies included tinkering with DIY electronics kits.

His hands-on encouragement at the grass root fundamentals drives his colleagues to continuously push the envelope of architectural engineering.

He strongly believes that unless he himself cant achieve the desired quality of workmanship; he can not expect the same from his colleagues.

The multidisciplinary trade that he practices today has its origin in MIT, Manipal where he graduated with a bachelor's degree in Architecture.

The B. Arch syllabus (in the late ninety's) introduced him to fundamental principles of structural engineering and the elementary joinery details that even today has relevance in the complex structural and composite materials application of the façade industry.

Progressive & Evolving Engineered Art:

As a techno-preneur in the domain of bespoke design & build contracting, he passionately finds solutions to complex multi-dimensional challenges by self-funded R & D. He is patient by nature to the trial & error results of experimental outcomes.

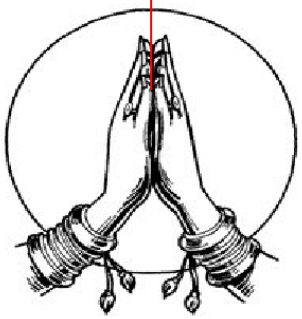
His time tested success formula is to find solutions by adopting & adapting principles from various industries that may not be directly related to his work. His diverse portfolio demonstrates the combination of fundamentals from the automotive / aerospace industry and handy craft skills of the traditional cottage industry. This approach has been used many a times to fabricate and install advanced architectural products.

Uttaran fondly known as "Ray" in his industry always strives to achieve the Architect's "design intent" and many a times even contributes to deliver a better design with his intuitive knack of materials application and fabrication.

Curious to learn about industrial fabrication; his mindset is always to adapt & adopt the manufacturing process from various industries to bring into life a designer's vision.

His creative license akin to most artists; allows him a few quirks in his personality. He is not the best when it comes to diplomacy; often direct to the point causing professional relationship stress. Described as "introverted" if work is not the topic of discussion & true to the nature of any artist his perfectionist desire of putting the project & product quality above the client's sentiments or the business profits.

THANK YOU FOR YOUR TIME



STUDIO ray SYNTHESIS

ARCHITECTURAL ENGINEERING CONSULTANCY