RACE Robotics Laboratory

Educational

Role: Project Lead

RACE Robotics Laboratory

243 sqm, Singapore, 2017

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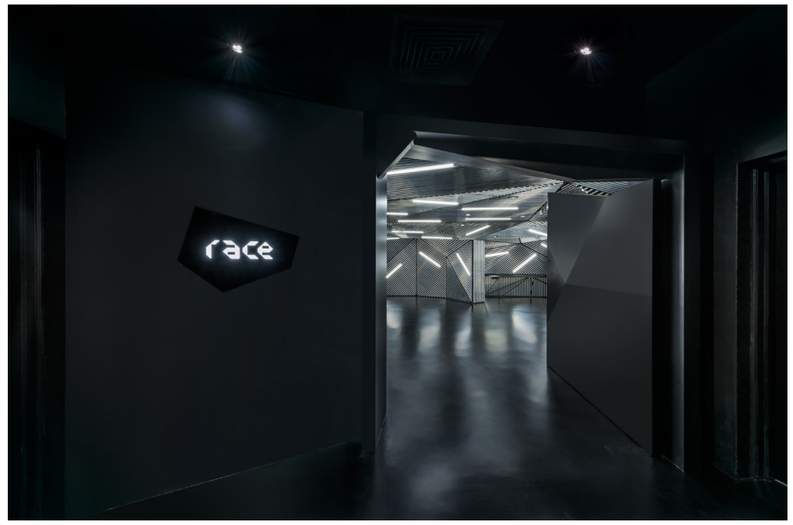
Studio: Ministry of Design

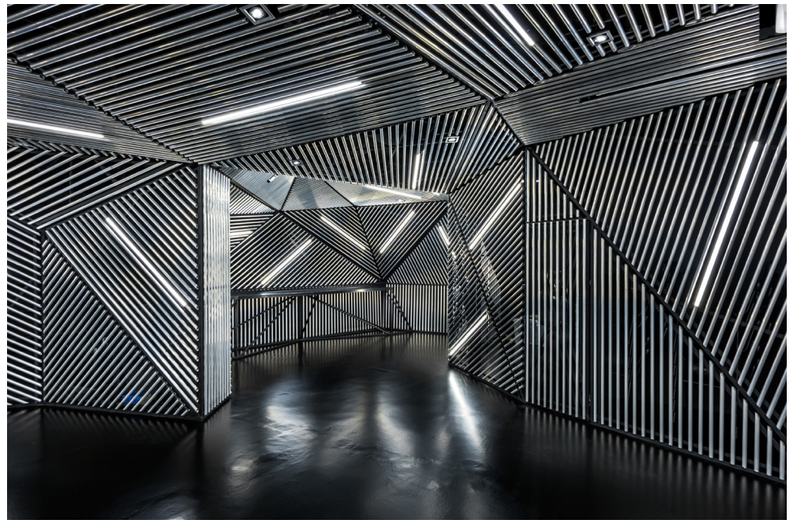
The studio was commissioned to design the branding and spatial experience for RACE, a new robotic facility aimed at educating, and introducing robots into automating existing manufacturing industries. RACE intended to feature a series of interchangeable modular robots as a key unique proposition.

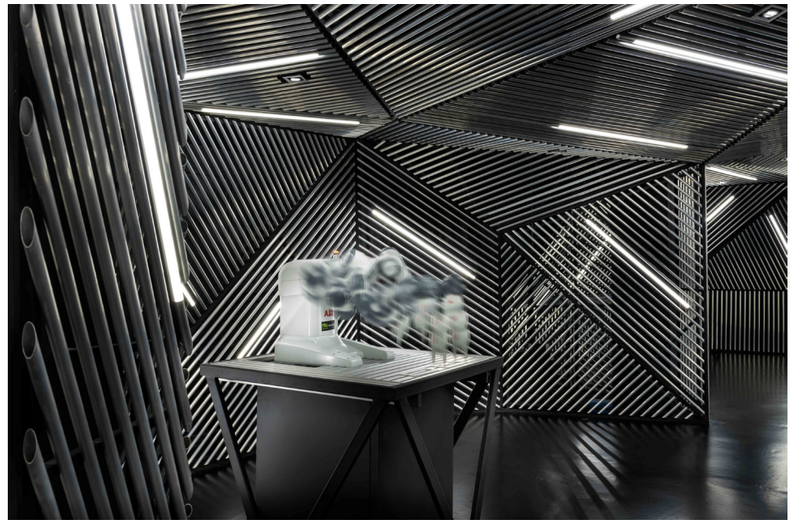
The brief for the laboratory space required flexibility to showcase a changing series of modular robots as well as be used for hands-on training and lectures. The laboratory needed to be a continuous open space, yet conducive for small clusters for hands-on training. Underpinning this brief, we sought to create an engaging and future-forward spatial experience that denotes the idea of industrial automation and precision.

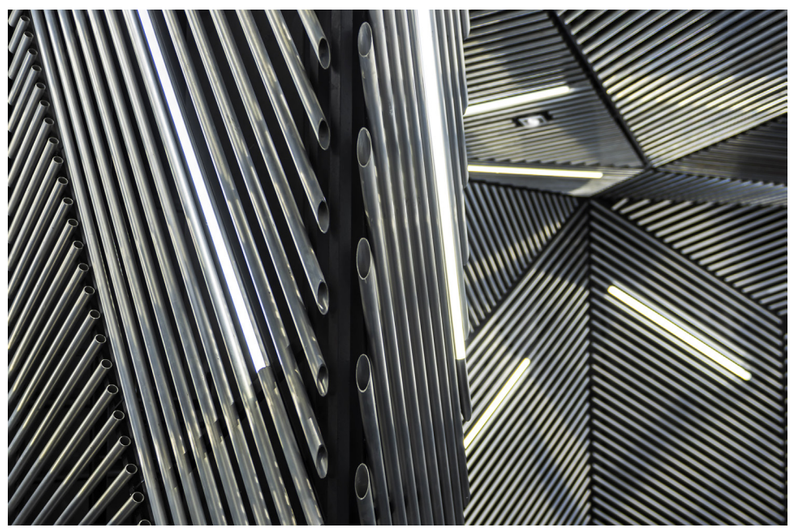
For maximum flexibility, we introduced a “second” skin - developed to seamlessly create a dynamic space by deconstructing the ceiling and wall planes into an array of dazzling facets. Each facet comprises stacked layers of hand-cut aluminium hollow tubing; rotating the direction of the tubes with every facet to create a bold multi-directional effect. The aluminium screen cladding also serves to cloak the necessary but unsightly mechanical and electrical services while allowing ease of access for operation. This skin was shaped in plan with enclaves for small group work clusters accompanied by separate access hatches to the services behind. The random sprinkle of custom LED strips serves to highlight the multi-directional panels with a cutting-edge aesthetic.

Postscript:
This project has been featured on leading design editorials such as Frame, Interior Design, Dezeen, Archdaily, Designboom, and has won multiple design awards.









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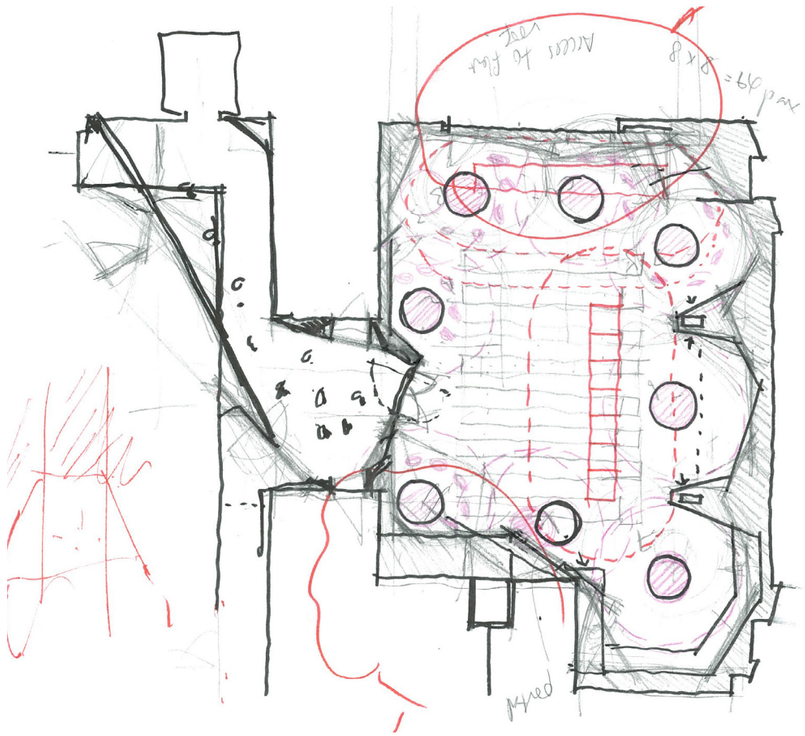
PROJECT INSIGHT:
Once the overall mood was decided to be futuristic and almost like a sci-fi spaceship, the layout was devised based on the functional brief for the number of working groups / robot pedestals desired to conduct the various training sessions.

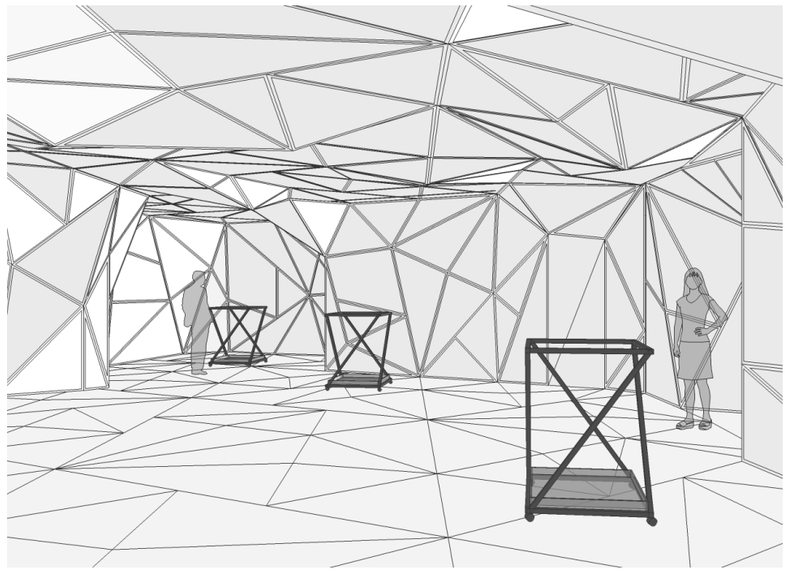
As the client had expressed their own robotic machining capabilities and metal works, the initial intent was to use perforated metal panels which they could provide.

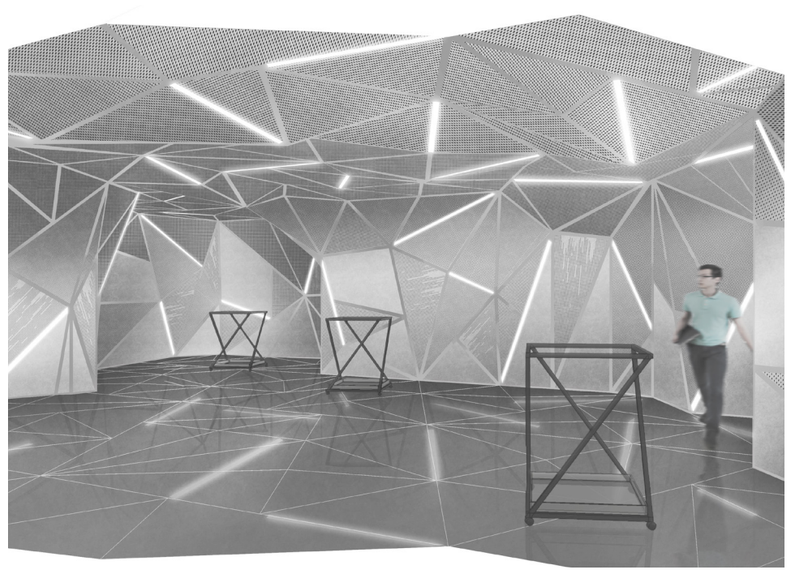
However, the client later decided it was more practical to have a contractor supply and install everything resulting in a big inflation to the cost of construction.

Besides that, the weight limitations for the structural frames meant we had to simplify the facets and reduce the number of panels. This also meant having to change the cladding material into something that could be transported into site. Thus the change of the design to use aluminum tubes cut on site.

The resultant changes are an example on how site limitations and late client changes can push the design to an even better outcome.







Description (clockwise from top left):
1. *Sketch layout plan*
2. *Final layout plan*
3. *Sketchup model of facets*
4. *Photoshop render over sketchup model*