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INDE.Awards 2017 Winners
An Office Where Animals Live, teamLab
RACE Robotics Laboratory, MOD
Lane 189, UNStudio
'Design is Digital'

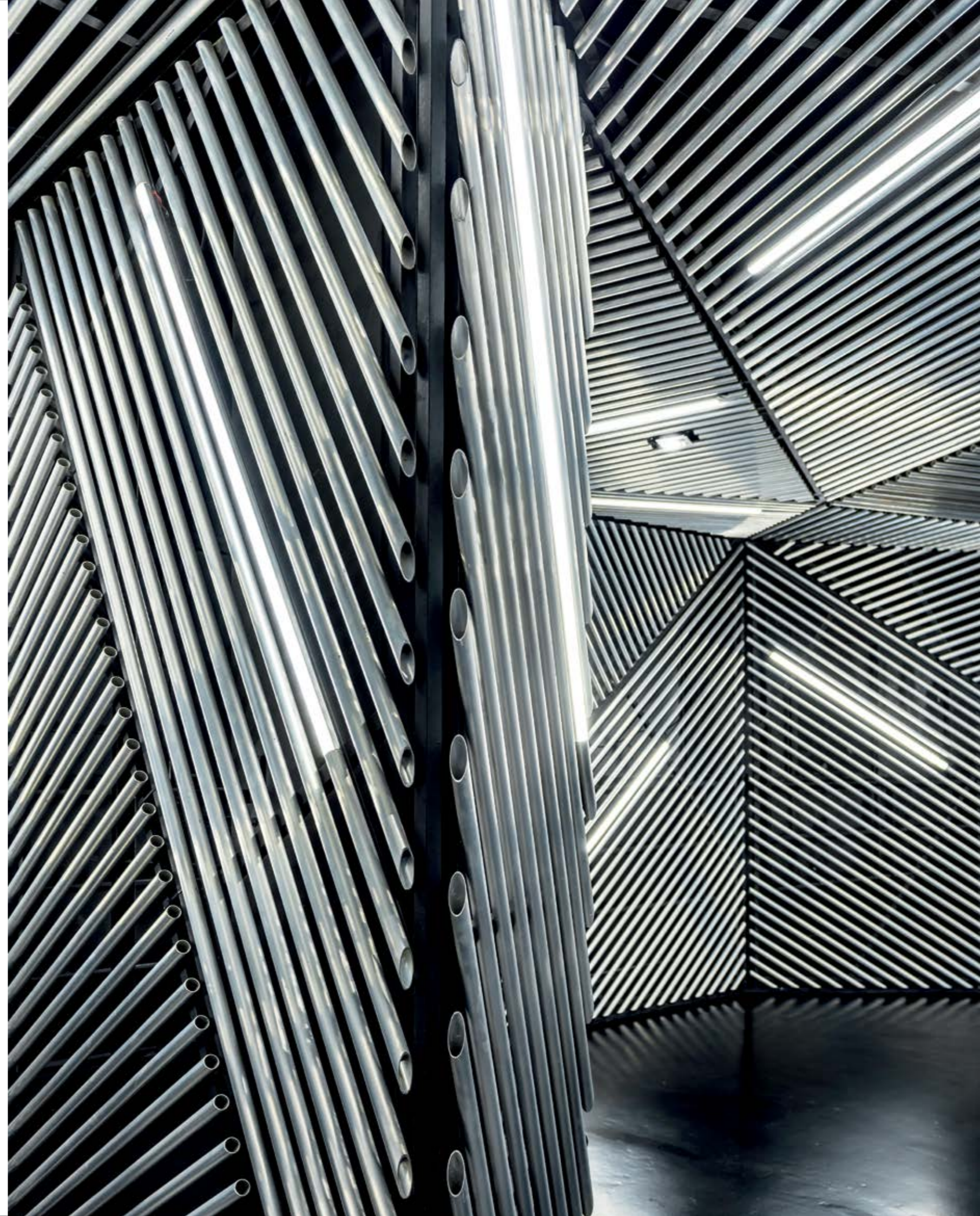
Ministry of Design creates a strong impression for Singapore's RACE Robotics Laboratory with a future-focused interior and graphic character that emphasises precision and movement.

Hey, Robot!

RACE Robotics Laboratory, by Ministry of Design
Words *Yvonne Xu* Photography *Edward Hendricks (courtesy of MOD)*



Above: In the lift lobby, a web of white lines creates an anamorphic effect. The RACE logo was designed to communicate precision and dynamism. Opposite: A faceted skin of hand-cut aluminium hollow tubing creates a bold multi-directional effect.



“This is our take on the dynamism of automation and robotics... We wanted something in which people don’t feel they are in an alien space.” Colin Seah.



Floor Plan

Legend: 1 Lift Lobby | 2 Entrance Vestibule | 3 Entrance | 4 Teaching/Lecture Area | 5 Robot Station
| 6 Service Hatch | 7 Projector Screen | 8 Toilet | 9 Store Room | 10 Display Counter.

Opposite: RACE was formed by PBA Group (a producer of mechanical and automation products) and professors from a local university. Its aim is to educate corporations and the public about robotics, automation, and efforts to transform Singapore into a smart nation with smart industry. Pages 128-129: Robots are displayed on mobile units designed by MOD and positioned to create clustering zones for small groups of visitors.



Advanced robotics, and capabilities such as The Cloud, data analytics, and the Internet of Things are the new cog and wheel of the smart factory. Industry 4.0, which describes the digital-physical convergence of information systems with operational technology, has not only brought about an unprecedented level of digital transformation to today’s production systems; new forms of human-machine interaction are also emerging. This has necessitated, too, establishments such as the Robotics Application Centre for Excellence (RACE), a robotics and automation training facility that offers courses on human-robot collaboration, among other things.

Particularly in the realm of robotics, cobots (from ‘collaborative robots’) with built-in safety features now allow human and machine to work side by side, making safety fencing around industrial robots a thing of the past. Cobots can also be programmed through teaching rather than coding. At RACE, one can try programming a cobot to pick up an item along a desired pathway simply by guiding its arm toward the item. Such workings became a starting design inspiration for Colin Seah, Design Director of Ministry of Design (MOD), when he designed the interior and branding for the RACE Robotics Lab.

“This is our take on the dynamism of automation and robotics,” he says. “We were quite intrigued by the question of whether the space should be high-tech clinical and clean, or more textured. You could go the *2001: A Space Odyssey* route where it is all white and there is no texture. But we wanted something in which people don’t feel they are in an alien space. If you feel like you are in a clean room, you’ll behave a certain way. We knew that a lot of things in this room were about movement so we wanted the space to be a frozen dynamic space.”

Located in Yishun Industrial Park, RACE’s array of metallic facets belies the four-walled room it is housed in. Hollow aluminium tubes are riveted diagonally onto frames, which are themselves angular and oriented irregularly in an abstraction of cubist planes. Light tubes embedded into some of the rods augment the sense of animation and dynamism.

“You can read the construction,” says Seah. He continues, “You can see the layering – tube on frame, frame over space, and then multiple frames over space – so you can understand the logic of how it was put together. It reflects the process of automation, in which you often see an assembly line of things. It’s almost like an X-ray of the building. There’s some honesty about it.”

The screens, which Seah refers to as a ‘skin’, were shaped to create periphery substations that facilitate small group-work clusters. The substations also house a changing series of modular robots displayed on moveable stands designed by MOD. These nooks have hatches through which the necessary (concealed) mechanical and electrical services can be accessed. Seah explains that the framework was designed to be transferable too. “Should RACE need to move, they can disassemble the whole thing,” he says.

What is delightful about RACE, beyond the metallic lustre and strong first impression, is how it functions as an industrious and elegant solution addressing the themes of movement and movability on so many levels.

modonline.com



Designing For Optimisation

About 6,000 aluminium tubes are riveted onto the metal framework that shapes the walls and ceiling of the robotics laboratory. Designer Colin Seah considered using metal sheeting as a material, but the collective weight on the structural frame would have totalled a few hundred tonnes. The final design uses fire-rated aluminium in the form of hollow tubes spaced apart in a barred pattern that dramatically reduced the weight.



Lane 189

Client CITIC Capital
Architect UNStudio
Project Team Ben van Berkel, Hannes Pfau, Severin Ignaz Tuerk, Kyle Ching-Yu Chou, Alexander Schramm, Adriana Rodriguez Ossio, Caroline Filice Smith, Lukas Allner, Tamim Salah EI Negm, Yuan Duran Zhai, Justin Tao Cheng, Cristina Gimenez, Bloom Shao Kai Hou, Eric Zhu, Yuwei Wang, Mingxuan Xie, Edwin Hang Jiang, Joerg Lonkwitz, Fabian Alejandr Mazzola, Deepak Jawahar, Juergen Heinzl, Praneet Verma, Gordana Jakimovska, Huaiming Liao, Gang Liu, Weihong Dong
Local Executive Architect TJAD / UNStudio
Local Design Institutes TJAD, CNYD
Construction Management CITIC Capital
Landscape Consultant TJAD
Facade Consultant Inhabit
Lighting Consultants ag LICHT, LEOX Design
Construction Management CITIC Capital
Facade Contractor Boji
Interior Contractor Beijing Honggao

Time To Complete 4 years
Total Floor Area 38,800 sqm

UNStudio
unstudio.com

Finishes

Screened facade is PVDF-coated aluminium panels and stainless steel pin connector elements. Glass facade is triple-layer curtain wall glazing system (3 x 6m). Back facade is painted render. Substructure is aluminium, steel and stainless steel. Superstructure is steel-reinforced concrete. Interior aluminium wall cladding, **JYMQ**. Interior gypsum board ceilings, **Knauf**.

Fixed and Fitted
Bathroom appliances, **TOTO**.

Lighting
Generally throughout, **Jojo**, **Osram**, **Oppl**, **Beghelli**.
Lighting control, **ecue**.



An Office Where Animals Live

Client DMM.com
Designer teamLab
Project Team teamLab Architects

Time To Complete 11 months
Total Floor Area 3,394 sqm (level 24), 3,446 sqm (level 27)

teamLab Architects
architects.team-lab.com

Furniture
On level 24, custom designed meeting tables, **teamLab**; office chairs, **Cassina** and **Vitra**. On level 27, custom-designed desks and 'crawling desk', **teamLab**; 'SAYL' chairs, **Herman Miller**.

Artwork
Digital artworks, **teamLab**.

Fixed, Fitted & Furnished

Want to know what made the spec' schedule for all our featured projects? Don't worry, we've got you covered...



Chi She

Architect Archi-Union Architects
Project Team Philip F. Yuan, Alex Han, Xiangping Kong, Tianrui Zhu, Qinrong Liu
Digital Fabrication Fab-Union Intelligent Engineering Co. Ltd
Digital Fabrication Project Team Yuchen Hu, Liming Zhang
Structural Engineering Project Team Rui Wang, Junchao Shen, Xiaofeng Zhang, Jin Wang
Interior Design Project Team Xuwei Wang, Xiaoming Chen
Construction Equipment Project Team Yong Liu, Changying Jiang, Xi Li

Time To Complete 8 months
Total Floor Area 199 sqm

Archi-Union Architects
archi-union.com



ROCA Beijing Gallery

Client ROCA
Architect MAD Architects
Project Team Ma Yansong, Dang Qun, Yosuke Hayano, Yukun Yanagawa, Hiroki Fujino, Yin Ming, Li Yuanhao, Sear Nee
Interior Design Development K.W.design
Digital Art Jérôme Sans
Facade Consultant RFR
Interior Construction Contractor Sino-tech (Beijing) Decoration and Engineering Co. Ltd

Time To Complete 3 years
Total Floor Area 800 sqm

MAD Architects
i-mad.com



Gateway One

Client China Merchants
Master Planner and Architect SPARK
Project Team Stephen Pimbley, Wenhui Lim, Carlo Joson, Peter Morris, Cythia Lau, Rafal Kapusta, Lintang Wuriantari, Darmaganda, Mark Mancenido, Olivia Wong, Fabian Ong, Paula Zheng, Arnold Galang, Natasha Hill
Local Design Institute Guangdong Province Design Institute Shenzhen Branch
Facade Consultant Arup

Total Floor Area 71,600 sqm

SPARK
sparkarchitects.com



RACE Robotics Laboratory

Client PBA Systems Pte Ltd
Designer Ministry of Design
Project Team Colin Seah, Ruth Chong, Sandra Goh, Sarah Conceicao, Yiping Tiang, Richard Herman, Madeline Lim
Interior Contractor Hocklim Engineering Pte Ltd
Branding Collaterals Ministry of Design

Time To Complete 12 weeks
Total Floor Area 243 sqm

Ministry of Design
modonline.com

Finishes
Custom-designed aluminium tube cladding, **Hocklim Engineering**. Epoxy floor paint, **Trion Industrial Services**. Ceiling and wall paint, **Nippon Paint**. On door and portal, laminate sheet with NDF finish, **Formica Singapore**. On display counter, solid-surface top, **J' Classy Topstation**.

Lighting
Custom-designed LED light strip, **Hocklim Engineering**.



Kerry Logistics

Client Kerry Logistics
Hong Kong
Designer Bean Buro
Project Team Kenny Kinugasa-Tsui, Lorène Faure, Tommy Hui, Isabel Entrambasaguas, Lisa Chien, Michelle Ho
Builder Jackshun Engineering and Interior Design Co.

Total Floor Area 642 sqm

Bean Buro
beanburo.com

Finishes
On external LED columns, powder-coated metal mesh. In reception, stained MDF panels; Mutina 'Pico' floor tiles, **Anta**.

Fixed and Fitted
In reception, LED display screen. In auditorium, 'Soft Cells' acoustic panels, **Kvadrat**. In meeting rooms, 'North Tiles', **Kvadrat**.

Lighting
In external areas, LED light columns. In reception, branch pendant lights.

Furniture
In reception, Knoll 'Saarinen Executive Armchair'; Cappellini 'AND' sofa by Fabio Novembre; 'Long Modern Wave Bench', all **1stdibs**. In auditorium, PMA 'Dafne' fixed seating, **Ascender/Signal Plus**; '20th Century Infinity Ribbon Chair' and Edra 'On the Rocks' sofa, both **1stdibs**.