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UCT's d-school Afrika building bags SAICE award



The striking d-school Afrika has been named the winner of the 2023 SAICE Technical Excellence Project of the Year Commendation Award. Photo: Brenton Geach

The University of Cape Town's (UCT) Hasso Plattner School of Design Thinking Afrika (d-school) building has been named the winner of the 2023 South African Institution of Civil Engineering (SAICE) Technical Excellence Project of the Year Commendation Award.

The d-school Afrika was launched in October 2022. The striking building, which includes a one-of-a-kind atrium structure with a glass roof that ultimately led to this prestigious industry award, is located on UCT's middle campus. It was designed by KMH Architects in partnership with LEAF Structures – an engineering and design-build firm that creates custom engineered design build solutions for small-, medium- and large-scale projects.

Richard Perez, the director of the d-school Afrika, said: "We are super proud of LEAF Structures for having won this award. It's great to see that our vision of creating an innovative space for collaborative and creative teaching and learning is being acknowledged by winning accolades like these.

“The atrium is one of our building’s key features – allowing natural light to flood into the space. It’s a space where students and educators can walk in and automatically have licence to think differently and to collaborate.”

SAICE is the professional home of around 15 000 civil engineers, technologists and technicians. Its mission is to advance professional knowledge and improve civil engineering practice. The Technical Excellence Award honours the cream of the industry’s crop who focus on unique projects that demonstrate notable advancements and innovative solutions to complex engineering problems. The organisation recommends that these solutions always display engineering ingenuity in its analysis, design and construction techniques, and that projects be designed and contrasted with environmentally sustainable principles and practices in mind.

Unique work of art

Thembakazi Mdlopane, the business development director at LEAF Structures, said KMH Architects contacted the firm in 2019 to assist with designing and developing a gridshell roof structure for the d-school Afrika building. By then, she said, the overall architectural concept had already been established and approved, and the gridshell structure for the atrium was identified as one of the building’s most notable features.

The aim, Mdlopane said, was to create a lightweight structure using a large triangular structural grid.

She said once the size of the gridshell roof was established, several grids were analysed before the team decided on the best one for the job. The project was designed specifically with design thinking students and scholars in mind and was only constructed after receiving their input on an ideal space, which, she noted, adds to the project’s exclusivity.

“It’s a very unique project that really stands out in terms of engineering creativity locally. The exposed gridshell structure and the use of various techniques to support the glazing on the large steel grid is a work of art,” she said.

Multidisciplinary team

But things were not always smooth sailing. The COVID-19 pandemic and the national and international lockdowns severely impacted movement and access to materials, and placed enormous pressure on the project timeline. Added to that, because of the complexity of the gridshell’s features, sorting, managing and installing thousands of its unique components proved to be a difficult task. But thanks to their skilled multidisciplinary team, Mdlopane said this task was broken down into a series of simple steps and conquered easily.

“The multidisciplinary teams who collaborated so well during this project really stood out for us. It was wonderful to see the ethos of the d-school Afrika and design-thinking principles like co-creation, collaboration and innovative working models implemented throughout this project’s stages,” she said.

“This award is a great recognition by South African engineering colleagues, and it encourages us to continue to push the boundaries of engineering innovation. We are most proud of everyone who worked on this world-class project with us. This work was a combination of many skilled individuals working together with a shared focus to deliver an excellent project, which I believe we managed to do successfully.”

Story by Niémah Davids, UCT News

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