Architectural lighting

on the ground-floor. There are, then, 10 storeys of dense accommodation over a mainly open-plan ground floor layout.

However, the heart, if you will, of 'the Heart' – and the focus for this discussion – is the helical concrete stairway that runs up through the building; as Allies and Morrison describes; 'unfurling like orange peel to create a dramatic vertical catwalk to see and be seen'.

When it came to the lighting solution for this winding, weaving design, Buro Happold, turned to manufacturer The Light Lab to use its 'Glowrail' 3D curved LED illuminated handrail.

The result has been a 430m custom timber LED handrail – the practice's largest timber LED handrail project to date – and one incorporating helical, curved and straight sections, seamlessly integrating with the sweeping concrete Heart Wall stairs and adjoining black steel staircases.

Myrto Skreta-Krikou, associate lighting designer at Buro Happold, describes how, from the very early stages, the staircase played a central role in the overall design of the space, with the lighting enhancing the geometry of Allies and Morrison design, in the process creating a 'seamless directionality for the visitors, staff and students', as she puts it.

She adds: 'The involvement of The Light Lab early on ensured a good integration of the lighting into the curved handrail and a smooth installation process, despite the challenging geometry and services coordination.

'The final result can only leave you in awe, especially when you find yourself in the space, experiencing first-hand the playful combination of the curves with the concrete material that the warm light so beautifully highlights. It is one of the designs that our lighting team in Buro Happold is most proud of.'

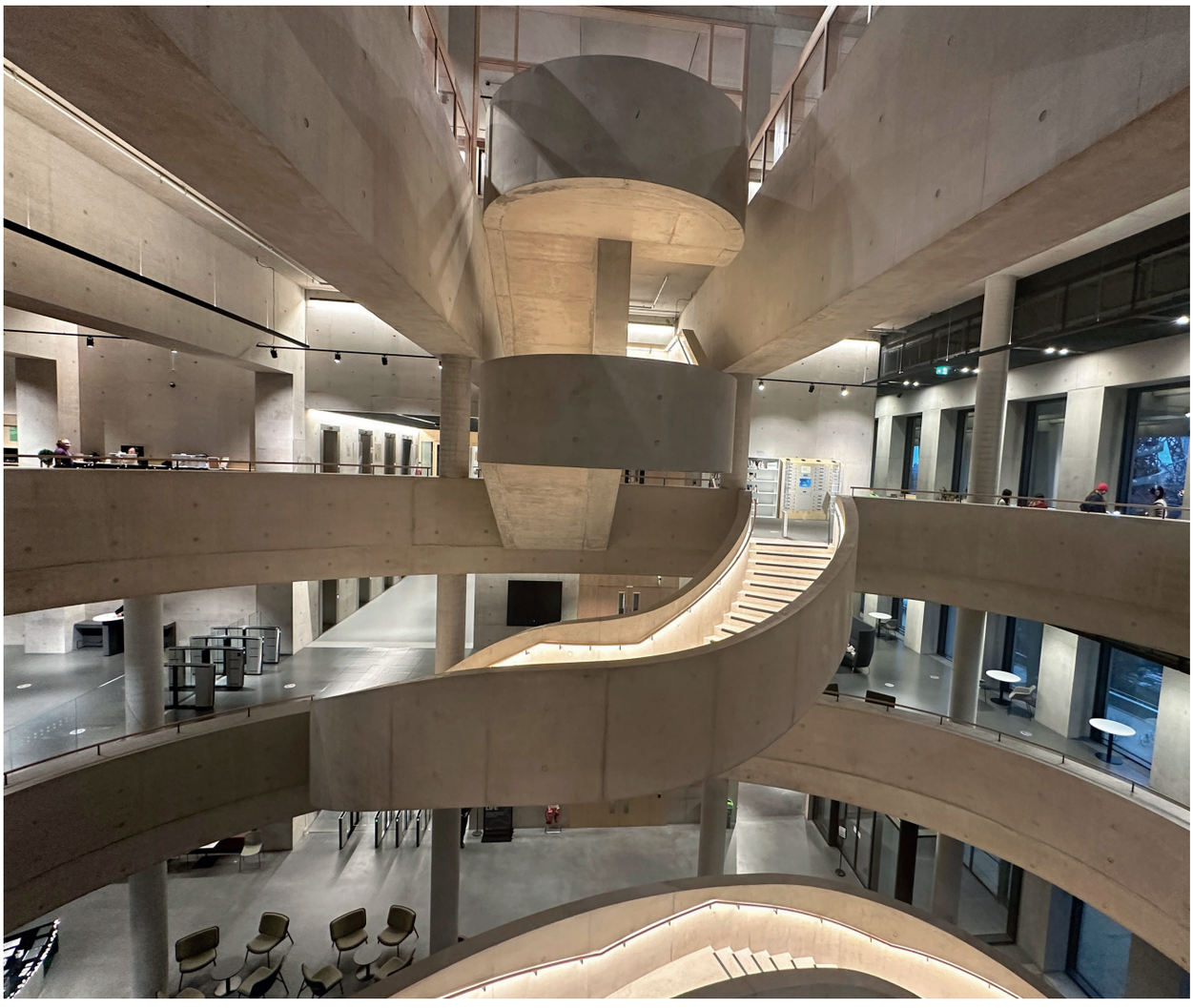
DESIGN CHALLENGES

The exposed concrete helical staircases posed several significant design challenges, notably mastering an unfinished surface.

The Light Lab team successfully addressed this by developing a customised fixing method, following Allies and Morrison's original design intent to have the bracket pointed straight into the concrete. This is without a cover plate to create seamless integration into the 'heart stair'.

This bespoke fixing method involved casting a spigot into pre-drilled holes in the concrete, which enabled the bracket to be attached directly.

As Marcus Cave, production manager at The Light Lab, explains: 'Fixing to a concrete surface demands complete



129940_Lighting Journal May 24.indb 34 24/04/2024 10:11

Architectural lighting

precision, as there's no room for touch-ups. Accuracy was key!'

The striking concrete stair also posed several significant further design challenges for the team when combined with the requirement for a completely retrospectively wireable system.

The solution, dependent on close coordination between all parties, required custom stainless-steel bracket back-boxes to be cast within the concrete stairs, linking driver locations with the handrail power requirements out on the stair.

PROJECT COLLABORATION

The design imperative – in creating a single, thin homogenous line of light to the underside of the helical handrail – over such large distances was a key challenge, with the longest helical rail measuring more than 40m.

At the same time, it was important to be simultaneously reducing the handrail and bracket structure so as to create the minimalist design, which added further complexity.

Although this is something common to all handrail projects that include long LED runs and minimal driver locations, on this installation all of these imperatives were amplified because of the larger scale and helical forms within the project.

Finally, as touched on above, for a project of this scope, it was vital for The Light Lab project manager Graeme Laurie to work in close conjunction with both the architect and lighting designer across all aspects of design and installation, to ensure a smooth process and successful delivery.

'The process was truly collaborative and allowed us to realise our vision for the project without compromising the original design,' agrees Bruno Marcelino, associate at Allies and Morrison.

'It's always very satisfying to see a completed project that closely resembles the original reference visuals but even more so on a project with this level of ambition, scope and finish,' agrees Graeme in conclusion. ■

IN NUMBERS

41,200sq m
Size of the new London College of Fashion in east London

107%
Project's biodiversity net gain, including 39% reduction in CO2 emissions against the original brief and 19% reduction in embodied carbon over its 60-year lifecycle.

430m
Length of the custom timber LED handrail

PROJECT CREDITS

Clients: University of Arts London, London College of Fashion
Structure: Buro Happold
Services: Buro Happold
Façade: Buro Happold
Landscape: LDA Design
Acoustics: Buro Happold
Cost: Gardiner & Theobald
Project management: Mace
Lighting: Buro Happold
Bespoke lighting manufacture and installation: The Light Lab


Ellen Murphy is marketing manager at The Light Lab

NEED TO KNOW

- A 430m custom timber LED handrail has been installed within the new London College of Fashion's helical stairway.
- Challenges included its sheer length, and the fact it needed to incorporate helical, curved and straight sections.
- A further challenge was the fact the whole stairway is exposed concrete, meaning precision customised fixing solutions had to be devised.

129940_Lighting Journal May 24.indb 36 24/04/2024 10:11