In conversation with Thabelo Netshivhungululu, Heleen Grimsehl, Brooke le Roux and Lyle Sangion

BOOGERTMAN + PARTNERS AND MODENA AEC

Delivering Protea Hotel Lilongwe Ryalls: seamless hospitality through digital coordination

AUDIO

READ TIME: 10min

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Thabelo Netshivhungululu: Technical Manager at Modena AEC & Infrastructure
Heleen Grimsehl: Director at Boogertman + Partners
Brooke le Roux: Architecture and Interior Design Strategic Key Account Manager
Lyle Sangion: Design Technology Specialist (BIM coordination)

The project has been in development for close to a decade.

Set within the rolling greens of the Lilongwe Golf Club in Malawi, the new Protea Hotel Lilongwe Ryalls is designed as a retreat from the city – a collection of low-slung buildings, shaded verandas and landscaped ‘green rooms’ that soften the boundary between architecture and nature. Conceived by Boogertman + Partners, the 180-key development draws on a clear concept: contemporary hospitality in Malawi should feel both internationally benchmarked and unmistakably local.

That sense of ease, however, belies a far more complex reality behind the scenes. In conversation with **Heleen Grimsehl**, Director at Boogertman + Partners, alongside **Lyle Sangion**, Design Technology Specialist (BIM coordination), **Brooke le Roux**, Architecture and Interior Design Strategic Key Account Manager, and **Thabelo Netshivhungululu**, Technical Manager at Modena AEC & Infrastructure, it becomes clear that the delivery of the project has relied as much on process as on design intent.

A project shaped over time

The project has been in development for close to a decade – which is largely a result of the practical realities of working within the Malawian context, including land negotiations, funding constraints and the structuring of a viable development.

Nonetheless, the core brief remained largely unchanged: a full-service hotel with conferencing facilities, multiple food and beverage offerings and a spa, positioned close to the city centre but embedded within a more expansive, natural setting.

The site itself – a portion of land carved out from the golf course – played a large role in shaping the design. Beyond the obvious spatial constraints, considerations such as golf ball strike zones, access routes and the retention of mature trees informed both the layout and the architectural language. The result is a pavilion-style scheme that sits lightly within its surroundings, with the landscape playing as much a role as the built form.

From the outset, the project was approached as a fully integrated design exercise. Boogertman + Partners' in-house skills – spanning architecture, interior design, landscape architecture and graphic design – allowed the team to develop the concept collaboratively rather than sequentially. "We start by workshopping all the disciplines

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together," Heleen explains, ensuring that the overarching idea – in this case, an 'oasis' offering respite from the bustle of the city – is carried consistently through every layer of the project.

Invisible complexity

If the architectural concept for the Protea Hotel Lilongwe Ryalls is one of calm and cohesion, the reality behind it is anything but simple. At the heart of the challenge lies the coordination of multiple systems, all competing for space within the same physical envelope.

In hospitality projects in particular, much of this complexity is carefully concealed. "A hospitality environment is about seamless service – and from an aesthetic perspective that means you don't want to see the building services either," Heleen says.

That invisibility requires precision. Ducts, conduits, pipes, lighting and structural elements must all coexist within tight spatial constraints.

On this project, the challenge was amplified by both scale and geography. More than 14 disciplines, involving over 20 individuals, were required to work across multiple buildings, with teams distributed between South Africa and Malawi. While local partners were engaged across key disciplines, many were still working primarily in 2D environments, adding another layer of complexity.

Under traditional workflows, much of the coordination among disciplines would take place through drawings and mark-ups, with conflicts often emerging only once construction is underway – resulting in rework, delays and, in some cases, compromises to the original design intent.

At the heart of the challenge lies the coordination of multiple systems.

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A digital approach to delivery

To address this, Boogertman + Partners, working with Modena AEC & Infrastructure, implemented a digital coordination process centred on Building Information Modelling (BIM) and Autodesk Forma (Forma) as a common data environment.

For Lyle, who has been closely involved in the project's coordination since 2023, the principle is straightforward. "Think of it as a digital eraser," he explains. "We're identifying where systems clash and resolving issues before anything reaches site."

What distinguishes this approach is the level of integration. Rather than working in isolated models, all disciplines operate in a shared digital environment. A BIM execution plan defines how information is shared and structured. Regular coordination meetings provide a forum for resolving conflicts in real time.

Thabelo notes that the process extends well beyond the technology itself. "There's a lot of coordination behind the scenes – setting up how the team communicates, how the models are structured, and how information is shared across different offices and disciplines."

Lyle explains that the process rests on three interrelated principles – collaboration, communication and coordination – embedded within a shared environment and allowing the team to maintain control over both programme and design intent.

Certainty through coordination

The impact of this approach is both measurable and immediate. Early in the process, more than 3,000 clashes were identified across the project's various models. Through an ongoing process, those conflicts were systematically resolved.

By the late stages of design, clashes had been effectively reduced to zero, to the point where the team only required occasional coordination meetings.

The significance of coordination becomes most apparent on site. "If a contractor calls about a clash on site, you can immediately see what they've done incorrectly because of the clash detection that's been done," Heleen says. "And you know for certain it shouldn't be happening."

This level of certainty is not simply the result of software, but of how the process is structured and managed. Heleen likens

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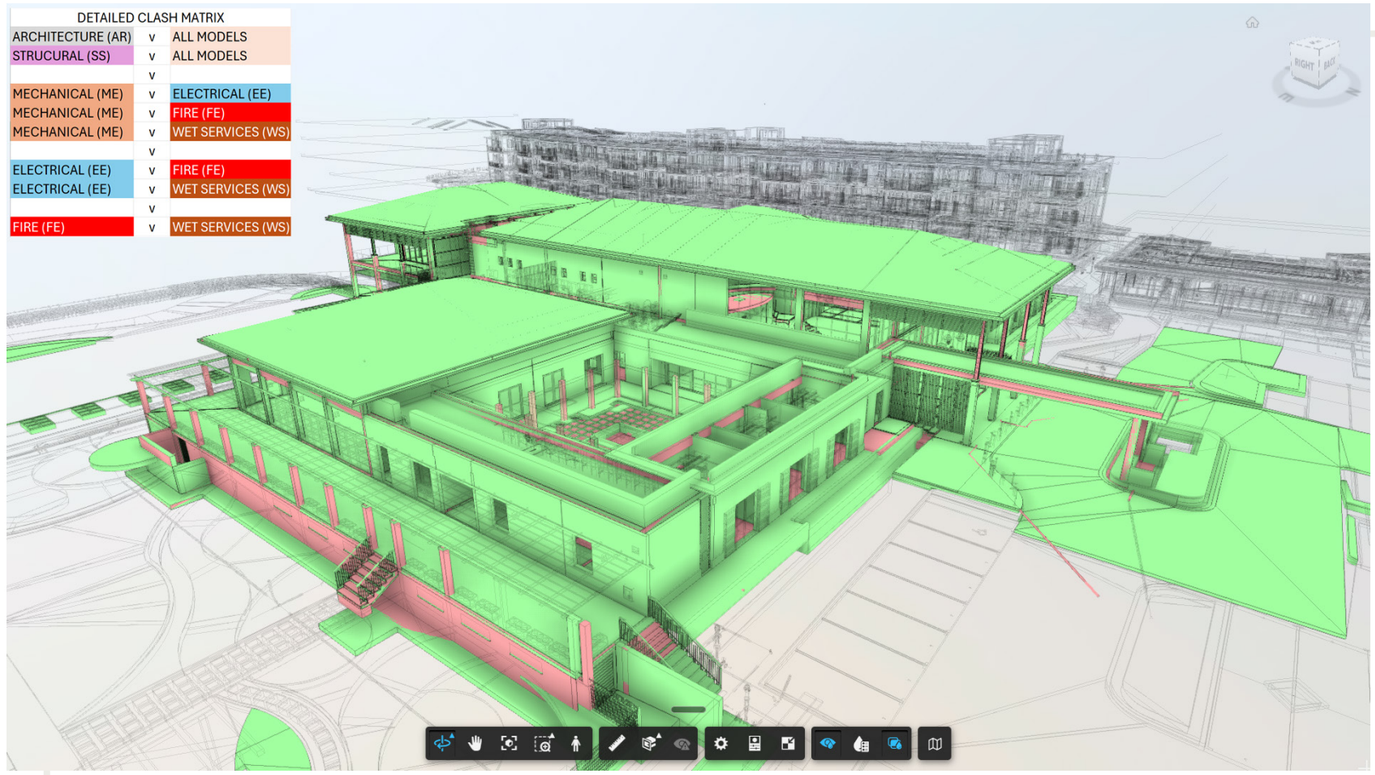
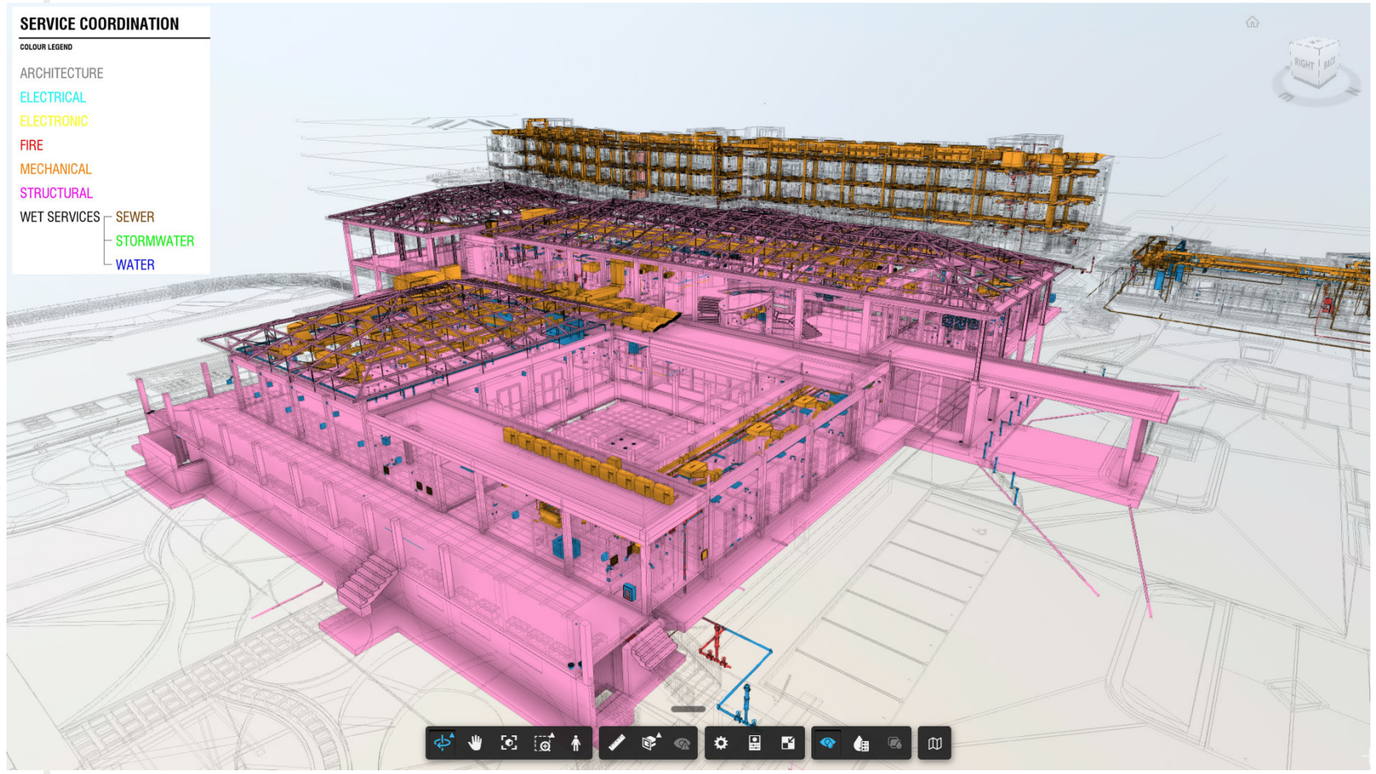




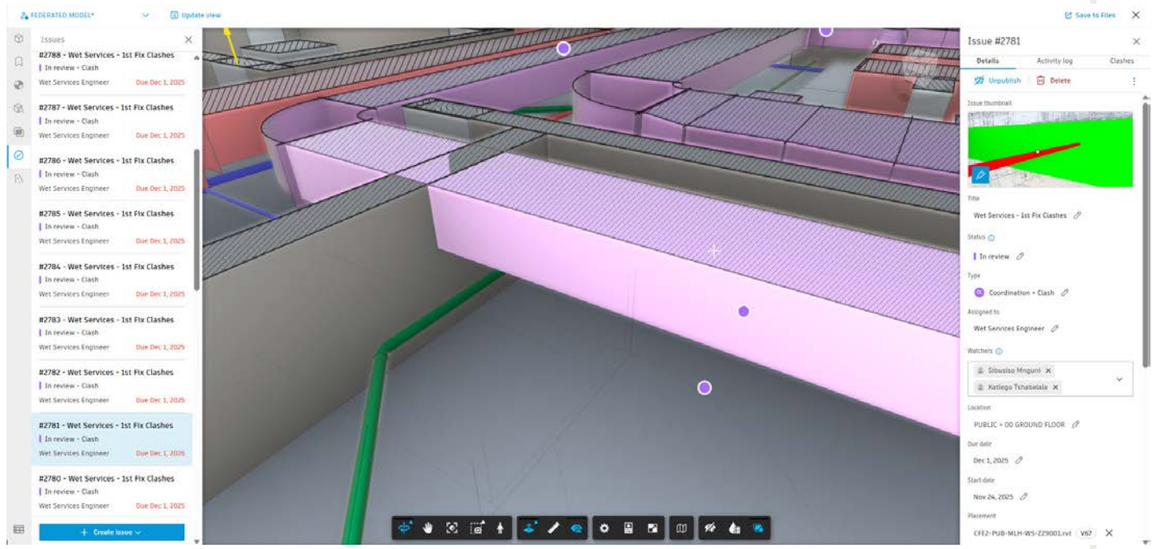
Modena's role to that of a conductor – guiding the various inputs of the design team and ensuring that they come together as a coherent whole. In a project environment where multiple disciplines are working simultaneously, often across different locations, that orchestration becomes critical.

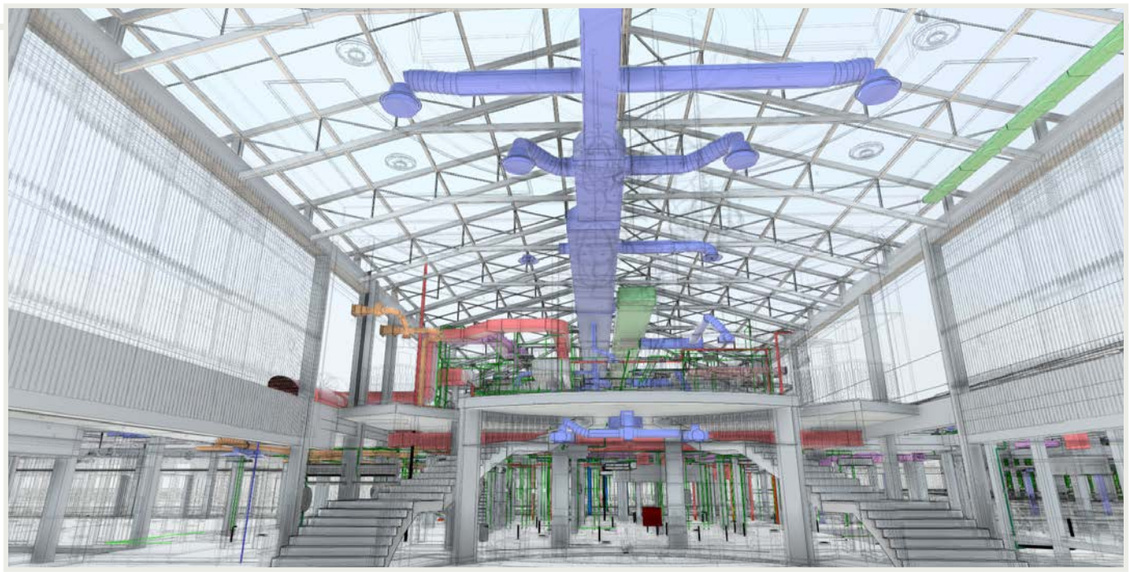
For Brooke, the value of this approach is evident in avoiding costly reworks on site. "Our team does an amazing job in this regard," she says.

Designing with foresight

The benefits of digital coordination extend beyond services integration. By working within a fully coordinated 3D environment, the team was able to resolve elements of the design far earlier than would typically be possible.

This included integrating interior design elements – from lighting layouts to feature installations such as chandeliers – within the broader coordination model.





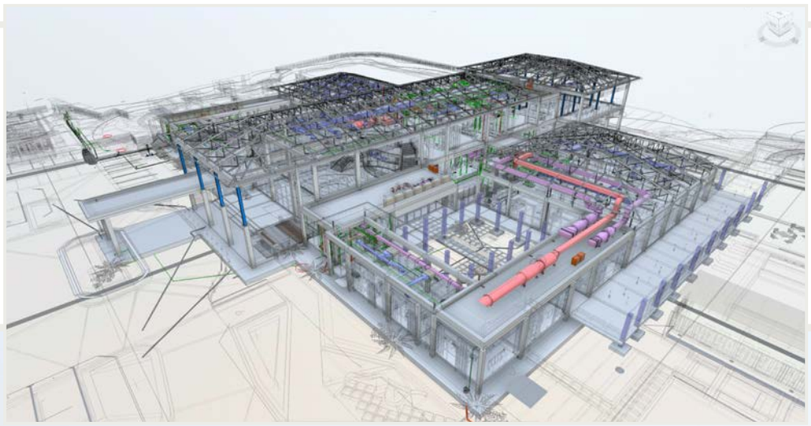
In a traditional workflow, these elements are often finalised later, increasing the risk of clashes with services or structure.

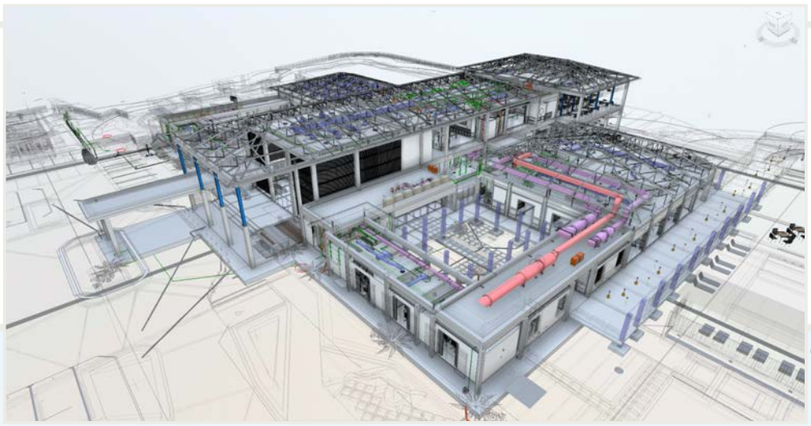
The use of a federated model – combining inputs from all disciplines into a single, coordinated representation – also enabled more intuitive client engagement. Through visualisation tools, the design team could guide the client through the building in real time, exploring spaces and materials before construction began.

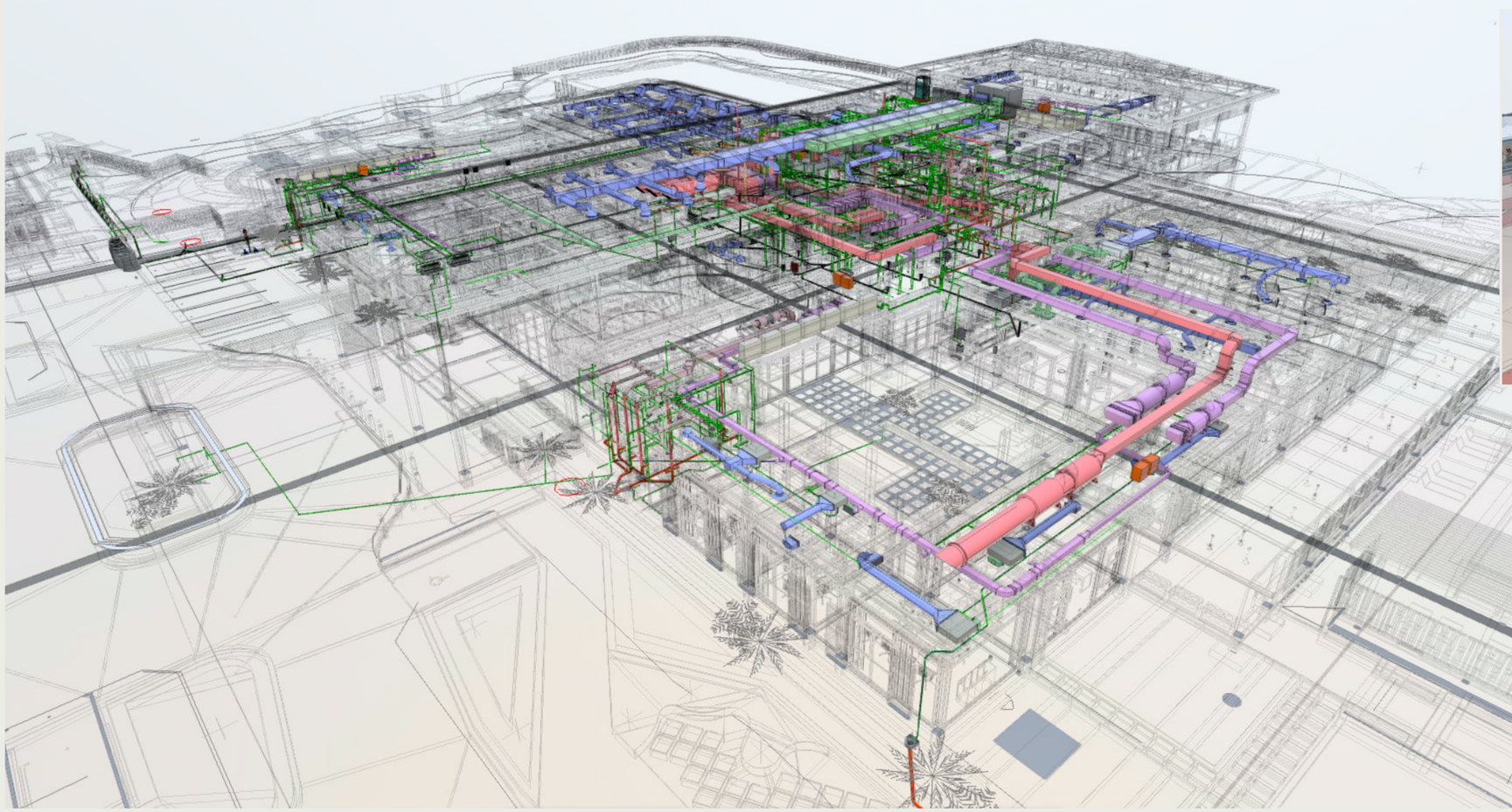
Working across borders – and towards the future

If digital coordination provided the framework, the project's cross-border nature tested its limits.

With consultants based across South Africa and local partners in Malawi, the team had to navigate differences not only in geography, but in working methods and levels of digital adoption.







While the South African teams were fully embedded in BIM workflows, some local partners remained more accustomed to 2D processes, requiring a more adaptable approach to collaboration.

As Thabelo notes, this reflects a broader dynamic across the continent. “There’s a knowledge gap,” he says, “but there’s also a huge opportunity – people are aware of it and they’re willing to invest in upskilling.”

In this instance, the team required a shared framework that could accommodate different levels of technical engagement while maintaining the integrity of the coordination process.

At the same time, the benefit of a shared model extends beyond design and construction. As Thabelo explains, projects developed within a coordinated BIM environment are inherently structured with long-term operation in mind. “You’re setting it up in line with what will be needed to operate the building over the next 25 years,” he says.

Although this level of integration is not yet standard practice in all markets, the foundation has been established. The coordinated model holds the potential to support facilities management and operational decision-making over the lifecycle of the building.

> Each guest room incorporates unique Malawian artworks, while larger installations and landscape elements draw on local materials and skills.

Designing within context

The Malawian context shaped the project in tangible ways.

Construction methods, material availability and local building practices differ significantly from those typically encountered in South Africa, requiring the design to respond not only to site conditions but to the capabilities of those delivering it. As Heleen explains, the approach is as much about understanding local practices as it is about design – ensuring that the project can be realised without placing undue pressure on local contractors.

At the same time, the project actively embraces local craftsmanship. Each guest room incorporates unique Malawian artworks, while larger installations and landscape elements draw on local materials and skills. Sourcing these elements required extensive engagement with artisans across the country.

Freehand sketches all by Alan Hurlbatt, Boogertman + Partners Interior Design Lead on Protea Hotel Lilongwe Ryalls

The result is a development that reflects its context not as an aesthetic gesture, but as an integral part of its conception and delivery.

An invisible layer of precision

For all its technical sophistication, the success of the Protea Hotel Lilongwe Ryalls ultimately lies in what guests do not see.

The careful resolution of elements, the seamless integration of services and the coherence of the interior spaces all result from a level of coordination that remains largely invisible, and which allows the architecture to fulfil its intent.

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