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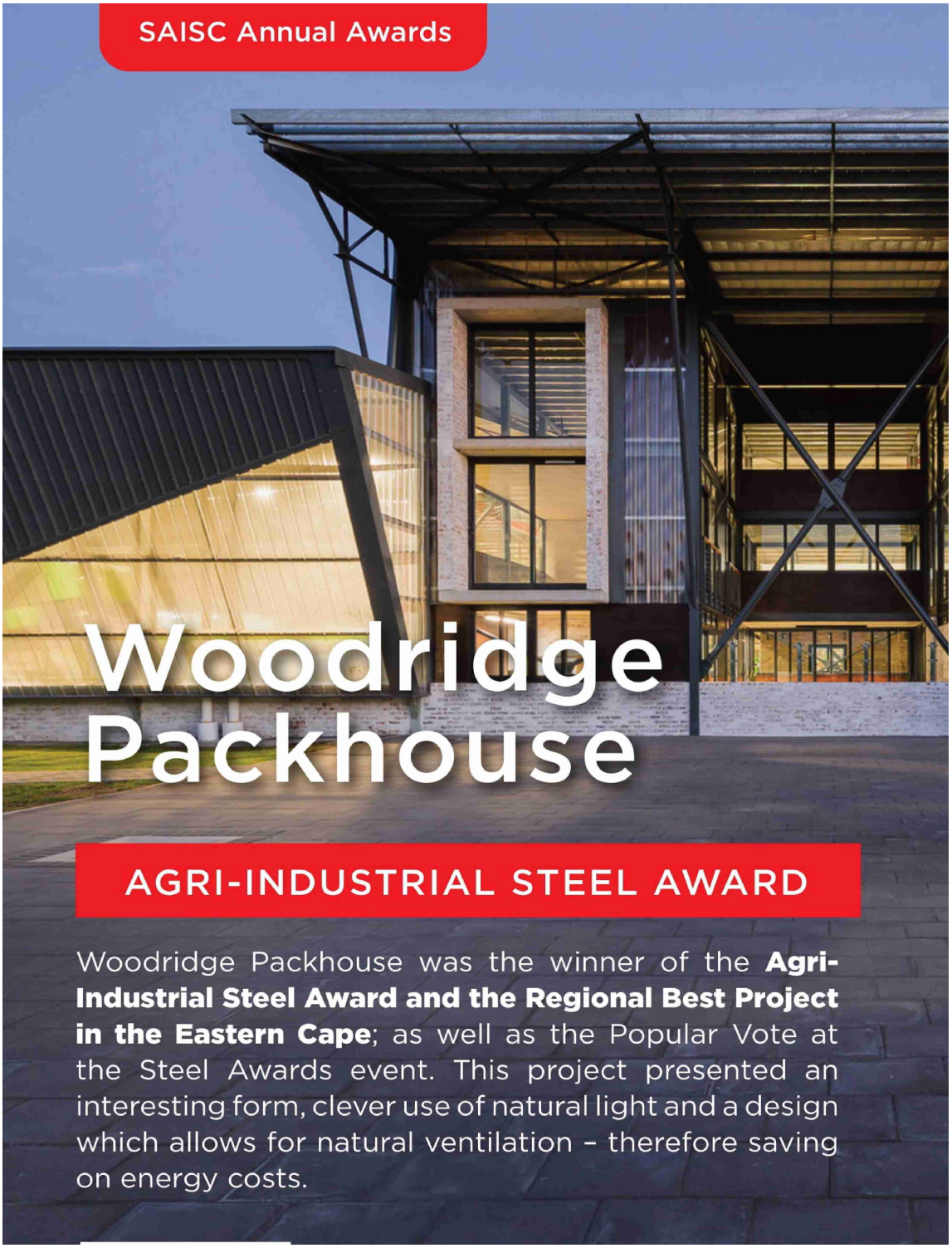

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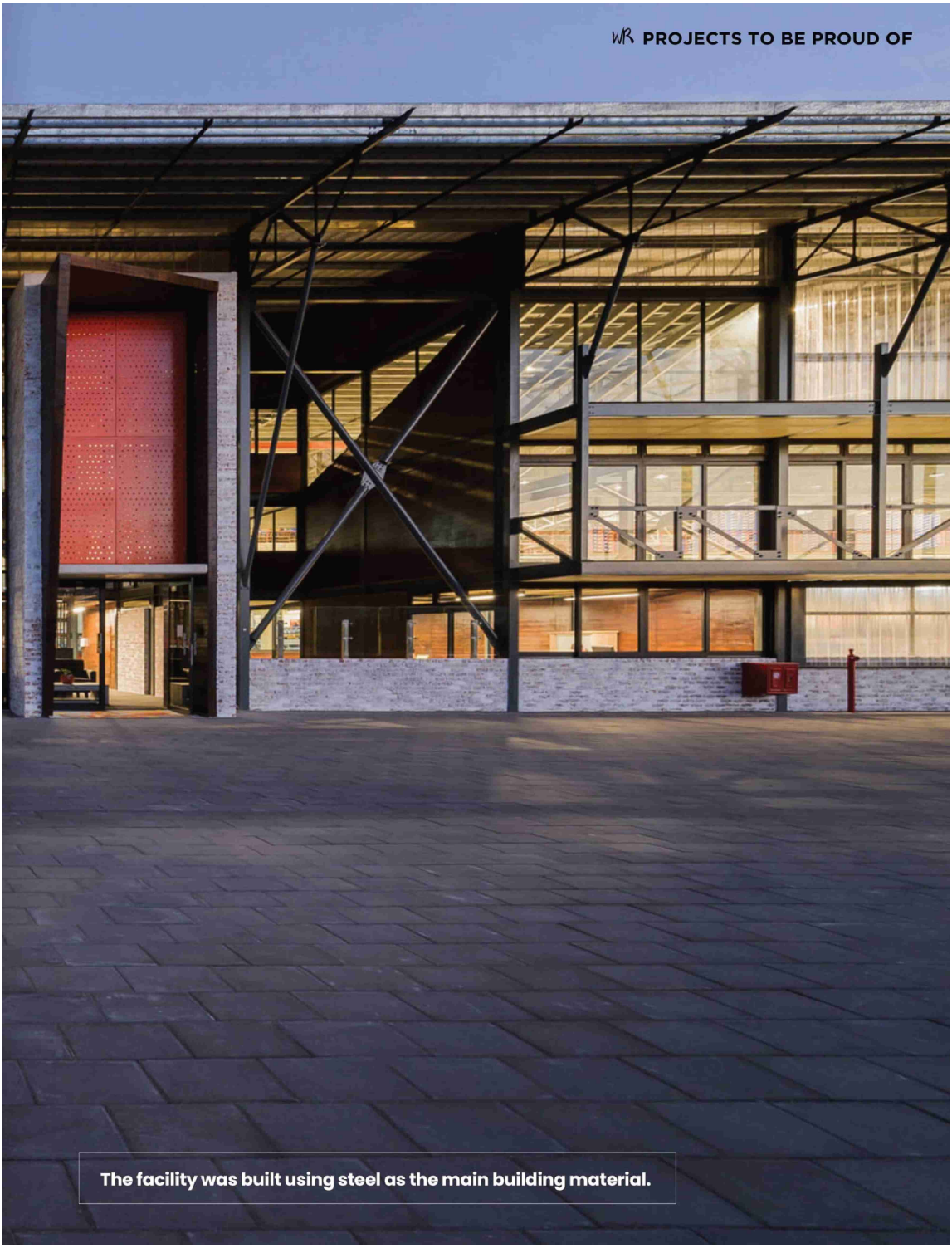

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Planning

The architects were approached by a citrus farmer on a farm near Addo in the Eastern Cape, South Africa. His requirement – and the project brief – was the creation of something more than just another shed on his farm.

The project planning catered for the movement of large trucks, visitor vehicles and pedestrians. These movement patterns were incorporated into the master planning of the gross built area of 21 000m² and arranged around four components:

1. The first component (the shed) caters for the intake, cleaning, sorting, packing and distribution of citrus and other fruits during the various harvesting seasons throughout the year.
2. The second component is a gatehouse entrance.
3. The third component is the administrative block for farm managers.

Problem: Natural ventilation was a challenge in the office component, as it had to be accommodated under the same roof as the processing facility. These office components are often equipped with large HVAC systems, which consume substantial amounts of energy.

Solution: These energy-intensive air conditioning systems were avoided by creating internal courtyards within the facility. These courtyards ensure that each office can ventilate naturally, while providing viewing corridors over the citrus orchards.

4. The fourth component is a canteen area with outside seating for workers.

The facility

The facility is surrounded by citrus orchards which are covered with shade cloth for protection against birds and

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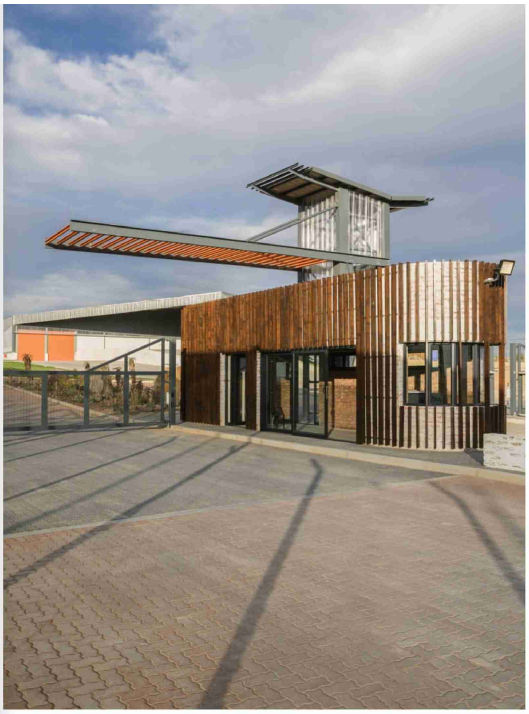

INTERESTING FACTS:

- Angled facades allow for natural light to filter into the workspaces.
- HVAC systems were avoided by creating internal courtyards within the facility to provide natural ventilation.
- Solar panels provide enough power for the entire 21 000m² facility.

pesticides. The building form got its inspiration from the way the netting covers the orchards and gets fixed to the ground, taking a rectangular shape and pulling the facade away from the building to create a unique spatial experience. The angled facades allow for natural light to filter into the workspaces, whilst providing the workers with a connection to the outdoor environment.

On the western side, the roof and side facade angle into the ground, allowing cover for pick-up trucks and pedestrians. Upon arrival at the site, the facility appears to be growing out of the ground.

Creating a humane environment

It was important to create a conducive and pleasant environment in this large-scale facility. The use of double and triple volumes allowed a reduction in the scale of the shed in the office and canteen components; while the use of natural materials creates cosy interiors for the reception, offices and boardroom areas.

Super steel structure

- The facility was built using steel as the main building material. Connections are exposed and emphasised, creating an interesting appearance throughout the superstructure.
- Solar panels cover the northern roof, providing enough power for the entire facility.
- Rainwater is harvested via hidden gutters and downpipes, which naturally flow to a stormwater catchment area located at the lowest part of the site next to the gatehouse entrance.
- Water is then filtered by wetland plants and pumped back to the facility to be re-used for cleaning the fruits. The dam also provides a recreational space for workers during their breaks.

Project team

- Uitenhage Super Steel
- Global Roofing Solutions
- Stance Consulting Engineers
- Mondo Cane
- CMAI Architects

Full acknowledgement and thanks go to https://www.saisc.co.za and CMAI Architects for the information in this editorial. WR