

# South Australia Steel Excellence Awards: Buildings (Small Projects) Category



**Micro-X operates out of a mixed-use innovation precinct that has been recently erected beneath the refurbished frame of the main assembly building of the former Mitsubishi car plant in Tonsley, South Australia, and is now also part of the Flinders University precinct.**

Tridente Architects was given the task of creating a high-tech manufacturing facility in the space, with the final form needing to meet the specific requirements of the tenant, x-ray manufacturer Micro-X, while also allowing for both expansion and possible tenancy changes. This expansion has already been realised. Additional pods have been added to the structure, and an expansion is in development that will nearly double the floor area of the space.

In addition to meeting the needs of Micro-X, Tridente Architects also needed to meet the requirements of RenewalSA. The architects achieved this by delivering a construction that is flexible, cost effective and in keeping with the RenewalSA's mission of delivering urban renewal and development. As large-scale manufacturing scales down, particularly in the automobile industry, it is vital that these spaces find new uses, so they can fill the gaps left in the labour market. Companies like Tridente and Micro-X are playing a vital role in this.

## Overall Design Merit

The use of tall modular panels immediately delineates the function of the building. The use of this material delivers a flexible and open manufacturing facility and allows for the fabric of the building to represent its ultimate use.

The flexibility is furthered in the office areas. Each area is housed in modular KNCT units, which can be changed, reconfigured, expanded and reinvented as the requirements of the company change, and even as the tenancy changes.

As an industrial space, the use of finished structural steel was paramount in creating an aesthetic that suits function. The frame is a simple steel clad, with PIR paneling used for the metal encasement.

## Construction Efficiency

The entire project was designed via a systemised approach. This organisation route minimised the amount of building materials that had to be refined on site, which greatly reduced exposure to injury for onsite workers.

The design methodology, consisting of modular and panelised elements, as well as rigorous detailing, made for a swift construction process. This system of design also minimised construction wastage because everything was accounted for before arrival onsite.

## Environmental Efficiency

The material used in construction made the structure as efficient as possible. The pod structures also form walls, reducing the need for extra construction and material use. This design approach also removed the need for extra cladding layers, again reducing materials and construction requirements.

The flexibility of the KNCT pod system also allows for endless repurposing. The pods make this space the perfect high-tech manufacturing facility, but also give it the possibility of enjoying new uses for different tenants and commercial enterprises.

## Buildability

Tridente Architects' design offers incredible ease in fabrication and erection. The focus was on finding shop fabricated components for the project, which sped up construction and reduced onsite construction. The main structural steel frame, the modular accommodation pods and the metal clad PIR panels were all prefabricated.

The firm also demonstrated impressive documentation throughout the process, focusing on a pragmatic approach and simple and concise data transfer.

Additional pods have already been added, with a larger expansion that will almost double the floor area, currently in development.

### PROJECT TEAM

- **Architect:** Tridente Architects
- **Structural Engineer:** JDR#1
- **Head Building Contractor:** BUILDinc
- **Steel Manufacturer and Distributor:** BlueScope Steel
- **Steel Fabricator:** Hughes and Hills
- **Steel Detailer:** John Armstrong and Armstrong Drafting
- **Coatings Supplier:** Dulux
- **Metal Building Contractor:** SA Construct