

# MEGA STRUCTURE



# CONTENTS

## — 03

INTRODUCTION

## — 04

REVOLUTIONARY BUILDINGS

## — 05

BENEFITS

## — 06

OVER-SIZED DESIGN

## — 07

FEATURES

## — 14

STRUCTURE TYPES

## — 16

PROJECTS

## — 18

CONTACT

## Introduction

HR Structures has one of the most technically advanced design & production centres in Europe.

HR Structures Australia are the official Australasian agent for HR Structures GmbH. A company that uniquely combines the customer care of a family run business with the service capacity of a global powerhouse.

Pioneering product innovation, quality and performance are at the heart of their products, people and processes, the German facility located in the Hessian town of Grebenhain, can produce up to 80,000 m<sup>2</sup> of new structures per week – ensuring fast, economical, factory-direct dispatch worldwide.

HR Structures GmbH state-of-the-art factory incorporates purpose-built production lines.

All structures are designed to comply with international design code criteria, including the USA-IBC2009/12 and AS/NZS standards.

All components used (roofs and walling systems) are designed to comply with international fire safety codes according to DIN 4102 B1, M2, BS5438/7837, USA NFPA701.



**Design.  
Innovation.  
Tradition.**

# OUR MEGA

## Revolutionary Buildings

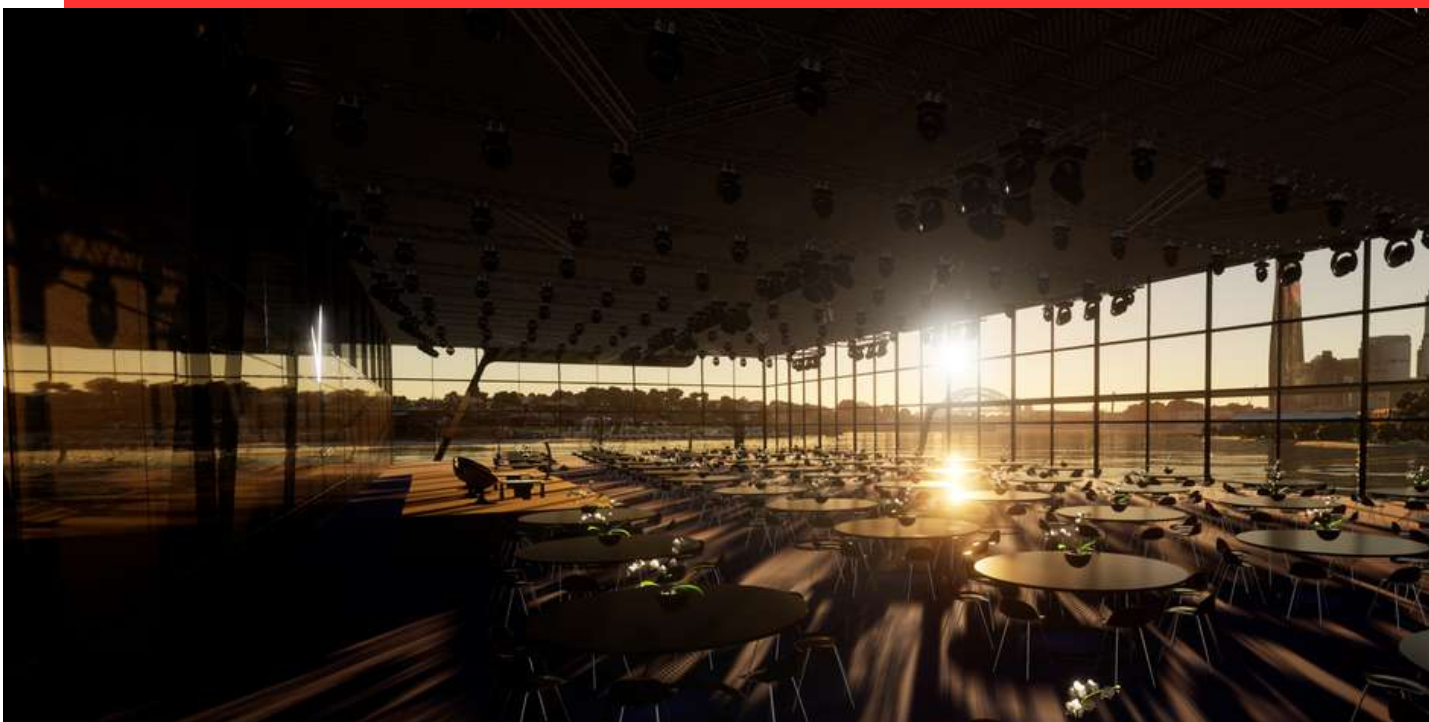
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### For Large Scale Commercial Projects

Mega Structures offer an ideal solution to large commercial projects that require extra-large clear-span space to accommodate multiple uses. The Mega Structure provides robust, secure space that can be configured to your exact requirements.

HR Structures take competency and innovation very seriously when it comes to large-scale infrastructure. Our team collaborates with major contractors on the structural design, offsite fabrication, module delivery, and onsite installation of many large-scale projects, including national and international infrastructure projects.

The Mega structure offers a range of cost-saving benefits. These structures can be permanent, semi-permanent and relocatable, with limited foundation requirements. Making them perfect for many applications, such as sporting complexes, airport terminals, rail projects, maritime ports, mining, energy, international exhibitions, film studios and much more.



# OUR MEGA

## Benefits

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### Durable and Sustainable Solutions for Large-Scale Projects

The Mega Structure is an innovative construction solution made of hard-pressed aluminum – a lightweight and durable material that can withstand harsh environments without corroding. These structures are designed by German and Australian engineers to meet the highest ISO compliant standards in the industry. With all-weather durability, these structures can withstand extreme heat, cold, and winds, achieving 100 kg/m<sup>2</sup> snow load and 175km/h wind load.

The structure systems are built to comply with stringent specifications and can be adapted to meet country-specific requirements. In addition to their robust materials, the Mega Structure also utilises prefabricated components to reduce construction waste and promote repurposing and reuse. The materials are designed for disassembly, enabling the recovery and reuse of building materials at the end of the project's life.

What's more, the Mega Structure's modular design makes it adaptable to a variety of functions, from airport terminals to maintenance facilities or extra-height capital equipment storage. Their flexible configurations make them ideal for many large-scale commercial developments.



# OUR MEGA

## Over-Sized Designs

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### The Ultimate Solution for Large-Scale Applications

Mega Structures boasts a ridge height of 8.00m with customised heights available, and a span ranging from 10.00m to 70.00m in unlimited lengths of 5.00m bays.

Made with durable aluminium profiles and fireproof wall panels, these structures are built to last, meeting Australian and European safety standards.

Customise your Mega Structure package with additional features such as stage platforms, gantries, lighting, soundproofing, climate control and thermal insulation, heavy duty floors, large roller shutter doors and ramps. Our mezzanine system provides an ideal way to lift functions to a second level, allowing for additional floor space that can be used for various purposes such as cafes and meeting areas. This not only maximises the available square meterage within the same area but also provides the added benefit of covered indoor and outdoor terrace space.

Mega Structures are flat-packed for easy transportation, reducing haulage requirements and minimising our environmental footprint.











# FEATURES

## Structure Profile

- **Bracing System:** Internal high-level bracing giving open & clear span spaces.
- **Frame Construction:** Hard pressed 4 groove aluminium cube profile.
- **Profile Size:** Profile sizes relative to situation requirements.
- **Roof Covers:** Single Layer PVC Cover, Polyglass PVC Roof Cover, Thermo Inflatable Roof, Parapet System.
- **Wind Loading:** Structures are all calculated to withstand wind loading based on the physical site location, and to meet Australian and European safety standards.
- **U-Values:**
  1. Roofs – 1.5 W/m<sup>2</sup>K
  2. Walls & Gables – 0.44 W/m<sup>2</sup>K

## Specifications

							
<b>Span Width</b>	<b>Length</b>	<b>Side Height</b>	<b>Wind Load</b>	<b>Custom</b>	<b>Anchoring</b>	<b>Loads</b>	<b>Area</b>
10.00m - 70.00m	Unlimited in 5.00m bays	Up to 8.00m	To site specifics	Fixtures & Dimensions available	As site specifically requires	Suspended loads up to 6 tonnes	Free standing area over 5000 sqm

## ROOF OPTIONS

- Single Layer PVC Cover
- Polyglass PVC Roof Cover
- Thermo Inflatable Roof
- Parapet System

## WALL OPTIONS

- Vinyl Façade
- Insulated Façade
- Glass Façade
- Glass Sliding Walls
- PVC Side Walls
- Polyglass Side Walls

## FLOOR OPTIONS

- Heavy Duty Flooring System
- Steel Substructure with Wooden Laying Panels
- Cassette Flooring

## ANCILLIARIES

- Various door types
- Various window types
- Indoor/Outdoor Ramp
- Gutter/Downpipe
- HVAC
- Internal/External Stairs
- Overhead Door Canopy
- Internal Partitions
- Ventilation Panels
- Signage Parapets
- Wet areas
- Guard Rail



# MEGA FEATURES

## Accessories

### Roof & Wall Options

#### Single-layer roof PVC Covers / Gable white/translucent

The flame-retardant PVC Covers according to DIN 4102-B1 is best suited for roofs or insulated structures. The single-layer PVC Covers is available in both translucent and opaque colours in a wide variety of colours.

#### Trapezoidal sheet

The strip-galvanized and coated trapezoidal sheet is best suited for roofing and insulated structures. A fleece coating is placed in the roof area to prevent condensation.

#### Polyglass roof PVC Covers / Gable white/translucent

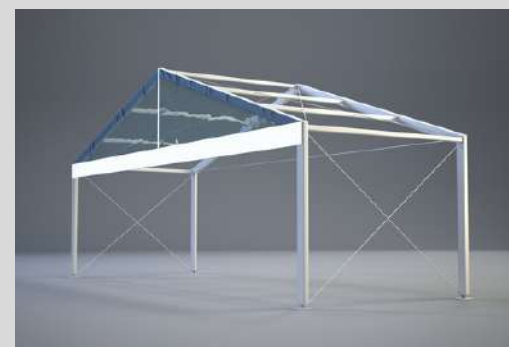
Our transparent PVC Covers allows for natural light and is an exceptional alternative to the white PVC Covers.

#### Thermal Roof PVC Covers

The air-filled double-shell roof PVC Covers offers additional insulation and condensation protection in the roof area.

#### Sandwich Panel

The insulated sandwich element is available in different material thicknesses. Insulation values with PUR foam or mineral wool filling. Different exterior colours available.





# MEGA FEATURES

## Accessories

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### Side Panels

#### Vinyl Facade

The Vinyl facade ensures a higher-quality side appearance and, thanks to its strength, offers better burglary and weather protection.

#### Insulated Facade

The insulated facade not only ensures a higher-quality side appearance, but in addition to its better protection against burglary and weather, it also offers additional thermal insulation.

#### Glass Facade

Available in a variety of designs, such as vinyl or aluminum frame, uninsulated or insulated glass, in various colours and tints.

#### Glass Sliding Walls

Entrances and exits or window elements in various facade systems, the glass sliding walls can be installed in our facade systems and visually adjusts to match the side paneling.

#### PVC Side Walling

The flame-retardant PVC Covers according to DIN 4102-B1 is available in a range of colours, both translucent and opaque.

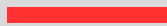
#### Polyglass Side Awning

Our transparent covers for even more light is an exceptional alternative to the white PVC Covers.



# MEGA FEATURES

## Accessories



## Flooring

### Cassette Flooring

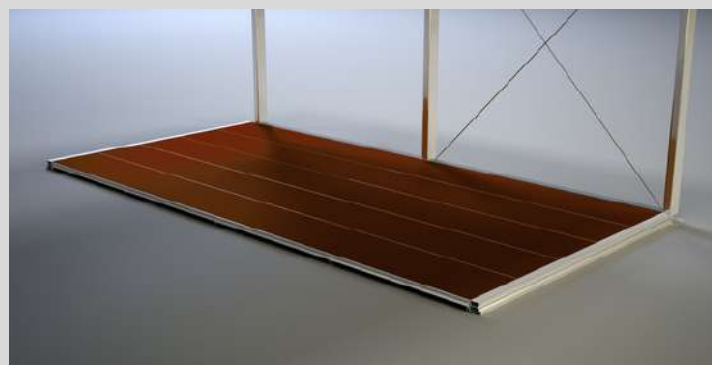
The visually appealing cassette floor is available with different wooden coverings and, with its lightweight aluminum substructure, has a traffic load of 350 and 500 kg/m<sup>2</sup>.

### Heavy Duty Flooring

The heavy-duty floor is the most efficient floor system in our range, which can be quickly installed using a forklift or crane. In addition, it has a low transport volume compared to other flooring systems.

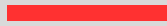
### Steel substructure with wooden laying panels

The steel substructure with wooden laying panels is a proven, solid and cost-effective flooring system that is available with a traffic load of 350 and 500 kg/m<sup>2</sup>.



# MEGA FEATURES

## Accessories



### Roller Doors

#### PVC Covers

Sliding PVC Covers are used in insulated structures and can be used flexibly thanks to their manual and easy handling.

#### Sliding Roller

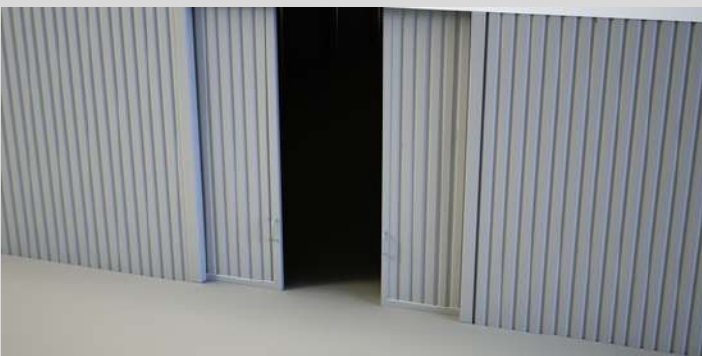
The manually operated sliding roller offers increased theft protection compared to the PVC Covers sliding roller, is designed for use in insulated structures.

#### Roller Shutter

The electrically operated roller shutter has light insulation and is easy to operate thanks to the control.

#### Sectional Door

The electrically or manually operated sectional door, which has increased thermal insulation compared to roller doors, is ideal for use in insulated structures. Options such as window sections or integrated doors are also available.



# MEGA FEATURES

## Accessories

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### Doors & Accessories

#### Single-leaf door / double-leaf door

Entrances and exits in various facade systems, the single and double-leaf doors can be installed in our structure systems and visually adjusted to match the rest of the side paneling.

#### Indoor/outdoor ramp

To enable barrier-free access to our structure systems, we offer various entry and exit ramps made of steel and aluminum.

#### Overhead Door Shelter

Various canopies are available separately from our doors, which visually complete your entrance area and offer weather protection for this area.

#### Transport Racks

Our transport racks offer optimal protection for loading and storing all structure and accessory parts.



# MEGA FEATURES

## Accessories



### Windows

#### Single-leaf / 2-leaf / 4-leaf windows

Various windows can be integrated into the structure cladding on the sides to provide light and fresh air.

#### Display Window

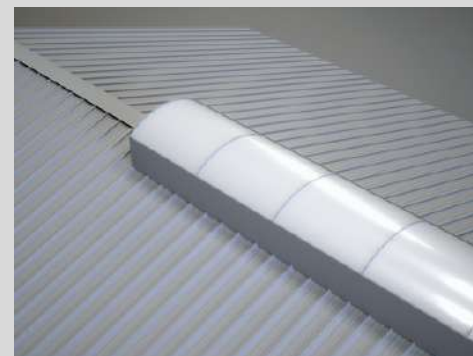
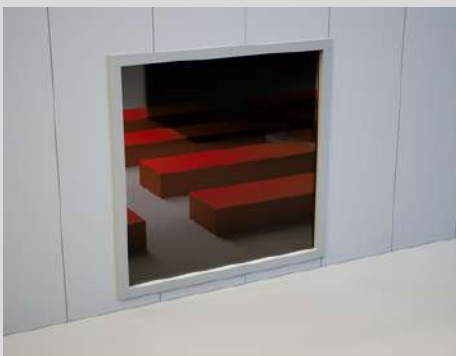
Approx. 2.2 x 2.50m. Our display windows serve as the greatest possible source of light and are ideal for sales and exhibition rooms.

#### Dome Light

The dome light or ridge light strip is used to provide direct light in the roof area and additional air supply. Further options such as RWA equipment are available.

#### Wall Light Strip Polycarbonate

Approx. 1.0 x 4.0m. The wall light strip is the cost-effective alternative to glass elements and is usually installed in the wall cladding under the eaves area.



# OUR MEGA

## Structure Types

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### Airport Terminals & Hangars

Modular structures have several possible applications in airport expansion, including baggage claims, waiting areas, terminals, hangars, and administrative or security offices. These structures can enhance efficiency and provide a better experience for passengers.

### Film Studios

HR Structures specialise in designing and constructing film studios that meet international filming industry requirements. The Mega Structure offers a quick and cost-effective solution to creating studio space, including feature-film and television production studios, as well as ancillary structures for workshops and offices.

### Rail Terminals

Mega Structures are a cost-effective way to replace outdated railway station facilities and minimise site disruption during construction.



# OUR MEGA

## Structure Types

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### Sporting Complexes

Mega Structures are ideal as sporting complexes that include swimming pools, spas, sports halls, basketball courts, and gymnasiums. We can add specialised flooring, temperature-controlled installations. Our designs also incorporate office suites, administration space, cafes, break-out areas, and hygienic installations for physiotherapy and treatment rooms.

### Exhibitions

We offer contemporary exhibition centre design with floor to ceiling glass elements and white panel walls that can connect to an existing convention centre. Our energy-efficient structures feature a thermo-roof solar installation with a large loading capacity suitable for events.





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Mega Structure Concept  
ICC Sydney

40.00m x 75.00m x 8.00m





**HR** STRUCTURES

Mega Structure Concept  
Hamilton Airport

Thermo Roof | 40.00m Hangar  
Door

## Your Innovative Partner in Modular Building

Modular buildings provide better opportunities for companies interested in greening the footprint of the building construction process, as well as the impacts of recycling the building after it's complete. As modular structures deliver positive environmental outcomes, then modular construction can be an ideal fit for any company looking for a flexible, renewable, and sustainable method of building.

Modular construction is a highly streamlined process that can see project times reduced by up to 50% as the structure components are manufactured offsite. And the insulated structure ensures a more consistent R-value rating (the measure of thermal resistance).

Modular structures are leading the way to reduce the extraction of new material resources, demolition waste, construction time and transportation costs, while ensuring that these structures have a new purpose beyond its planned lifespan.

Structures can be relocated, packed down in a matter of days and moved to another site. They can also be repurposed for different functions – including applications in the commercial and industrial sectors – their flexible configurations adapt well to different applications, such as offices, hospitals, warehouses, airport terminals, sporting facilities and many other large scale commercial developments.



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Innovation.  
Tradition.**



**Build Your Next Project**

**HR** STRUCTURES

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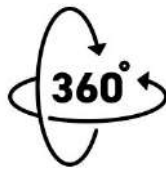
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