

# VOLGREN

A Marcopolo Company



**OPTIMUS**  
*Australia's premier route bus*

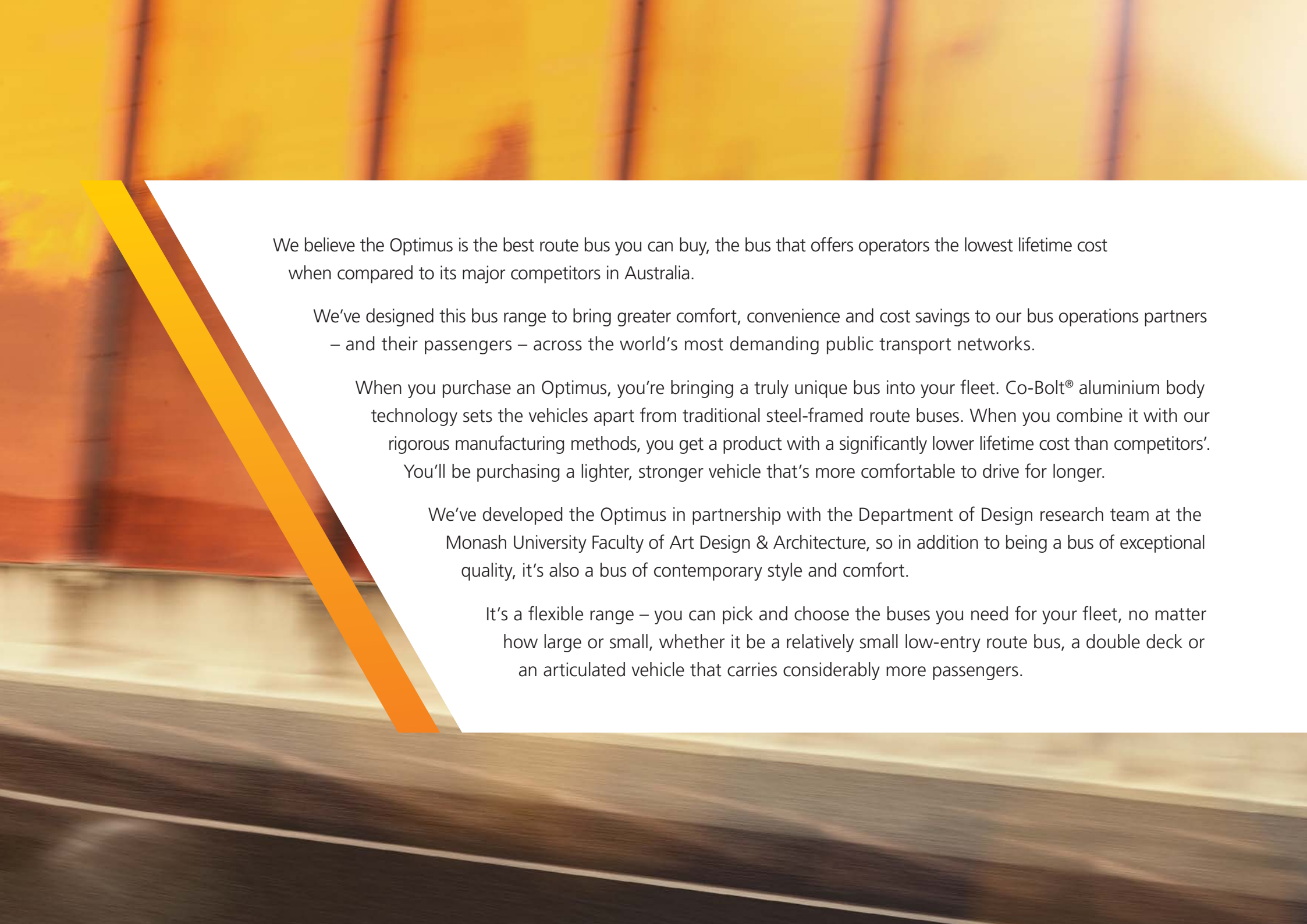


## **OPTIMUS**

Low-Entry Route Bus

(Available in 11.9m, 12.5m & 14.5m)

Also available Low-Entry Articulated Route Bus • Double Deck



We believe the Optimus is the best route bus you can buy, the bus that offers operators the lowest lifetime cost when compared to its major competitors in Australia.

We've designed this bus range to bring greater comfort, convenience and cost savings to our bus operations partners – and their passengers – across the world's most demanding public transport networks.

When you purchase an Optimus, you're bringing a truly unique bus into your fleet. Co-Bolt® aluminium body technology sets the vehicles apart from traditional steel-framed route buses. When you combine it with our rigorous manufacturing methods, you get a product with a significantly lower lifetime cost than competitors'. You'll be purchasing a lighter, stronger vehicle that's more comfortable to drive for longer.

We've developed the Optimus in partnership with the Department of Design research team at the Monash University Faculty of Art Design & Architecture, so in addition to being a bus of exceptional quality, it's also a bus of contemporary style and comfort.

It's a flexible range – you can pick and choose the buses you need for your fleet, no matter how large or small, whether it be a relatively small low-entry route bus, a double deck or an articulated vehicle that carries considerably more passengers.

## COMFORT AND FUNCTIONALITY FOR THE DRIVER

We built the state-of-the-art driver's switch panel with an emphasis on less wiring and fewer components than previous designs, as well as improved systems diagnostics. Our use of an automotive-grade plastic dashboard with a matte black finish means low reflectivity and the highly durable, flat-surface materials make for easy cleaning.

The climate control system features boost fans and air-conditioning is ducted to the driver foot-well areas.

The integrated locker at the driver's left leg incorporates key lockable latch and handle with padlock eyelet, providing security for cash and other valuables. A hinged sun visor closes the gap between the A pillar and the windscreen blind, allowing for better levels of driver comfort and safety.



## MORE SPACE AND EASIER ACCESS FOR PASSENGERS

The latest version of the Optimus range includes a fresh interior look with clear, flat, maintenance-friendly surfaces, as well as an improved use of space that increases room for passengers. We offer the option of anti-graffiti measures and materials, as well.

The innovative wireless bell push system is simple to reconfigure to your preferred specification. That means less reason for something to go wrong – less wiring equals less complexity – and, ultimately, less downtime.

A composite, lightweight manual 'flip-out' ramp is fitted at the front door, complete with tapered edges in the base and including a ramp hook located in the driver's area.





## A BETTER BUS THROUGH BRILLIANT TECHNOLOGY

The Optimus range is fitted with an on-board, multiplex computer system that is accessed by the driver. It includes control of air-conditioning and the destination indicator.

Thermolite flooring makes our buses lighter, stronger and fire retardant. SpaceAge Synthetics' Thermo-Lite Board® is a unique closed cell, lightweight composite product manufactured with cross-linked polymer foam and fibreglass. It's exceptionally strong, durable, resistant to high temperatures and it doesn't rot, making it the ideal material for our premium bus range.

LED saloon lighting is integrated into the roof air-conditioning duct and handrail support, reducing windscreen reflection. There are three zones on each side of the vehicle that are independently dimmable for improved function and safety.

## A ROUTE BUS FOR EVERY JOURNEY

Our Optimus range covers buses for every challenge an operator might face, whether it's a busier-than-usual route, limited road and curb space or simply the maintenance costs that come with running a high-use vehicle.

No matter which bus – or combination of buses you need – you can always be sure the Optimus we make for you today will be our best bus yet.



**ARTICULATED LOW-ENTRY ROUTE BUSES**



**LOW-ENTRY ROUTE BUSES**



**DOUBLE DECKER**

## OPTIMUS LOW-ENTRY ROUTE BUSES

Beautiful design, outstanding fuel economy and the lowest lifetime cost in its class make our standard low-entry Optimus a brilliant route bus choice for your business.

Our flagship low-entry aluminium bus comes in three main lengths so you can choose precisely the vehicle to suit your requirements:

11.9 metres • 12.5 metres • 14.5 metres





## OPTIMUS ARTICULATED LOW-ENTRY ROUTE BUSES

Considerably larger than our longest standard Optimus, the articulated model is designed to offer you much greater passenger capacity.

At 18 metres in length, this vehicle is ideal for the busiest routes that enjoy relatively high amounts of road space.







Credit: Stephen Cho

# OPTIMUS DOUBLE DECK

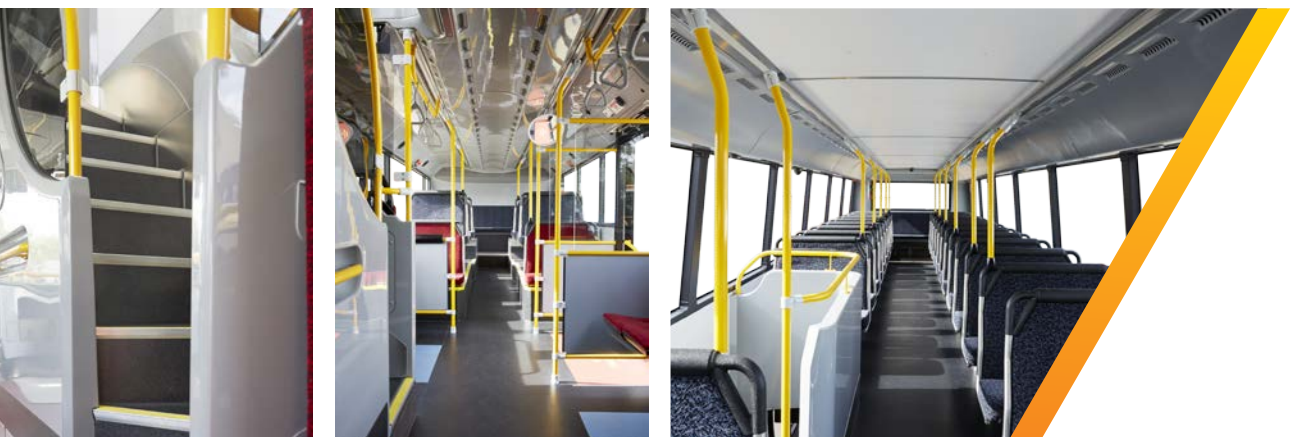
Our double deck bus is ideal for mass transit in markets where height is no obstacle and curb and road space is limited.

The double deck version of the Optimus occupies a similar footprint to a typical route bus but provides greater capacity and passenger comfort.

Designed with the safety of all passengers in mind, we've built the bus using a proven double deck structure. CCTV provides the driver with live monitoring of the upper area as well the staircase. High ceiling height allows for further comfort as passengers enter and exit the vehicle.

The automated passenger counter system shows seat availability in real time.

Seats: 90 passengers • Total passenger capacity: 113



## KEY FEATURES

- Available in 10.8m through to 18m articulated
- Aluminium naturally corrosion resistant
- Lower lifetime running costs
- Smooth and flat surfaces enabling easy cleaning
- LED daytime running lights
- All interior and exterior lamps LED-type (with the exception of high beams)
- Integrated roof mounted air intake solution draws clean air, reducing filter replacement
- Independently removable dash binnacle hood allowing unprecedented access to dash electricals
- Flush LED interior saloon lighting, 3 zones per side of the vehicle all dimmable to reduce windscreen reflection
- Thermolite flooring eliminates rotting, removing requirement of costly floor structure replacement midlife
- Ergonomic design ensures driver's area is comfortable and fully functional
- State-of-the-art driver's switch panel with less wiring and fewer components than earlier models
- Innovative use of high-durability, low-reflection materials
- Multiplex computer system including an on-board driver interface allowing:
  - Optional voice warnings to the driver including park brake warning alert system
  - Optional control of air conditioner and destination signage
  - Body and chassis diagnostics
- Wireless bell push system - no wiring failures or rattles inside rails
  - Allows for easy addition of buttons in future
- Wiper washer filler is external in the front cowl allowing easy access and eliminating water from inside of dash
  - Low washer fluid level warning comes through on-board computer
- Driver's locker/safe located at the driver's left leg incorporates:
  - Key lockable latch/handle with padlock eyelet
  - Security for cash and the driver's valuables
- Integrated hinged sun visor closes the gap between the A pillar and the windscreen blind, providing better levels of driver comfort and safety
- Five rear seats in an integrated seat/riser/parcel shelf assembly, with clear flat surfaces for cleaning and elimination of rubbish accumulation areas
- Easy replaceable panels
  - Fixed = 3min
  - Hinged = 5min
- Interchangeable driver's security screens
- Driver's area fans overhead and at leg level
- Windscreen film protects driver from UV radiation
- Rubber mounted windscreen and destination glass for easy and fast replacement
- Separate interior overhead chassis and body electrical centres
- Hinged access panels to all service inspection areas including wheel arches



## KEY CAPABILITIES

- › Graffiti or vandalism proof materials
- › CD/PA/Radio
- › DVD/TV
- › Reverse camera
- › CCTV system
- › Flexibility in key components
- › Passenger information system

Easy access to under-dash componentry

Hinged access panels to all service inspection areas including wheel arches

LED headlamp assembly with daytime running lights and halogen high beam

# THE VOLGREN LOWEST LIFETIME COST GUARANTEE

When you buy a Volgren Optimus, you'll buy a vehicle with the lowest lifetime cost of any bus on the Australian market.

That's not our ambition – that's our guarantee to you. And we support it with world-class university research.

## A GUARANTEE BACKED BY RESEARCH

Australia's largest tertiary institution, Monash University, has undertaken research into the major bus body brands available in Australia and the costs associated with running them as an operator. Their 2016 study rigorously analysed nine Australian bus operators and examined categories such as repair and refit costs, fuel savings and purchase price.

Monash found that an operator could expect a saving of more than \$60,000 over the life of a Volgren bus compared to competitor buses. That equates to a saving of 7.3% compared to other bus bodies in the study.

It all comes down to the technology we use, the manufacturing experience we draw upon and the after-sales service we provide.

And as with everything we do, you can expect this to continue to improve with every bus we build.

## WHAT THE STUDY SAID

*"Based on annual VKT [vehicle kilometres travelled] of 62,000 kilometres, a lifetime saving of \$36,000 is made in fuel by the Volgren. A lifetime saving of \$10,000 is made through repairs, and another \$10,000 through savings in refit costs. A further one-off saving of \$4,084 is made in the lower capital cost of the Volgren."*

- Monash University report, 2016

EXPECTED SAVING OF MORE THAN

**\$60,000**  
OR **7.3%**

OVER THE LIFE OF THE BUS  
COMPARED TO OUR COMPETITORS\*

\*Monash University report, 2016





## THE ALUMINIUM DIFFERENCE

A bus made with a Volgren body is unlike any bus on the Australian market. The Volgren difference comes in great part from the technology we use.

Since 1978, we've been in partnership with Swiss manufacturing trailblazers, Hess, the company that invented the Co-Bolt® aluminium system.

### WHAT IS CO-BOLT®?

Co-Bolt® is a rare example of technology with the power to transform an industry.

It's a modular aluminium construction system that uses bolted gusseted joints. It's also the technology we use to build all of our Volgren-branded bus bodies.

It allows us to create a genuine alternative to the traditional steel bus – a vehicle with a longer working life, shorter downtime and less need for repair. A vehicle that is lighter, stronger and safer.

### WHY ALUMINIUM?

Aluminium is lightweight, corrosion-resistant and requires no protective coatings. A bus made of aluminium has a longer working life and tends to have less downtime, reducing an operator's need for spare vehicles.

We extrude aluminium into complex shapes, allowing for intricate design and integrally strong

structures, producing buses that are hundreds of kilograms lighter than traditional steel-framed models.

### WHAT ARE THE BENEFITS?

Because buses are exposed to continuous vibration and stresses due to dynamic loading, welded joints can fracture and fail. Volgren's bolted system requires no welding, and results in a much longer joint life.

For operators, that means far superior reliability than a traditional steel bus and allows us to offer a 15-year warranty on Optimus buses' aluminium structure.

Co-Bolt® also ensures that, in comparison to traditional buses, Volgren vehicles:

- Have fewer components – no self-cutting screws or rivets
- Take fewer hours to assemble, and so can be delivered in a timely manner
- Are easier to repair and service
- Are more environmentally friendly – chromate-free screws, aluminium is easily recycled



# VOLGREN

A Marcopolo Company

## FOR BUS PEOPLE, BY BUS PEOPLE

Before we became bus body manufacturers, we were a company of bus operators.

We understood the frustrations, the challenges and the quirks of the industry. We could empathise with owners, drivers and passengers because we were those people.

In 1977 we began making bus bodies for a very straightforward reason: we wanted to build a more reliable, more comfortable, longer lasting vehicle than the ones available at the time. Not just for the sake of it, but for the benefit of the people who use buses every day.

Our position gave us an unusually good insight into what makes a great bus. And making great bus bodies is what we did.

Over the past three decades, Volgren has redefined bus manufacture, design and safety in Australia. We've done that with the latest technology, with the best engineers and builders, with a desire to always be better. But most importantly of all, we have done it with that original desire to build a bus with operators' needs in mind.

Our Optimus range is built by bus people for bus people. For you.





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