



MECCANICO

PRECISION | INNOVATION | COLLABORATION

► SYNCHRONISED LIFTING SYSTEM

The most advanced precision
heavy lifting and lowering technology
in New Zealand.



PRECISION HEAVY LIFTING

Meccanico's synchronised lifting system is the most advanced heavy lifting system in New Zealand. Our innovative custom designed system has the ability to perform complex heavy lifts with pin point precision.

Fast, precise and safe.



 **holmatro**



PINPOINT PRECISION

Highly accurate incremental lifting from 1mm to 150mm with weight calculation and centre of gravity determination.



HEAVY LIFTING

6000 tonne plus lifting capacity synchronised lifting system.



PRECISE MOVEMENT

Precise adjustment control up and down with revolutionary double actuated hydraulic pumps.



TOTAL CONTROL

Computer controlled operation with detailed monitoring and reporting from user friendly 12 inch touchscreen.



ELECTRIC OPERATION

Plugs into a 15 amp power point. Use outdoors and indoors with no fumes.



EASY ACCESSIBILITY

Compact and flexible configuration along with pump trolley allows easy access to difficult sites.



INNOVATIVE TECHNOLOGY

The most advanced heavy lifting system in New Zealand.



MECCANICO

NO SITE IS TOO TECHNICAL

Meccanico's synchronised lifting system was custom-designed for the most complex heavy lifting and levelling projects. This includes sites where access would normally be very difficult.

We can undertake heavy lifts, vertical and horizontal positioning for heavy buildings, structures and loads, including:



COMMERCIAL & INDUSTRIAL INFRASTRUCTURE

Meccanico works with main contractors in providing controlled, synchronised lifting and lowering for new and retrofitting of base isolation and flooring adjustment following installation.



MULTI-LEVEL / MULTI-UNIT (HOTELS, APARTMENTS)

Meccanico can resolve settlement and earthquake movement by lifting and levelling buildings 6000 tonnes plus.



BRIDGES

Meccanico can lift bridges with precision using specialist Holmatro double-acting hydraulic cylinders with low closed heights for easy access.



BOATS & SHIPS

Meccanico can weigh super yachts and ship sections to determine final weight and centre of gravity prior to floating.



PRECISION POSITIONING

The accuracy of the Holmatro Synchronised Lifting System ensures that precision down to 1mm can be achieved with ease.



HERITAGE BUILDINGS

Using Meccanico's computer controlled synchronised lifting system, heritage buildings can be restored to level and moved, maintaining their structural integrity.



► COMMERCIAL LIFTING & RE-LEVELLING

Waterman Place | Christchurch

A block of 12 commercial units, all precast concrete construction with various foundations all approximately 1.5 metres deep. The building was built very close to the estuary, so Meccanico undertook the work in dryer summer months to ensure the water table was more manageable. Over four weeks, the block of units was lifted 200mm then the units were re-levelled.



► BRIDGE JACKING

North Auckland

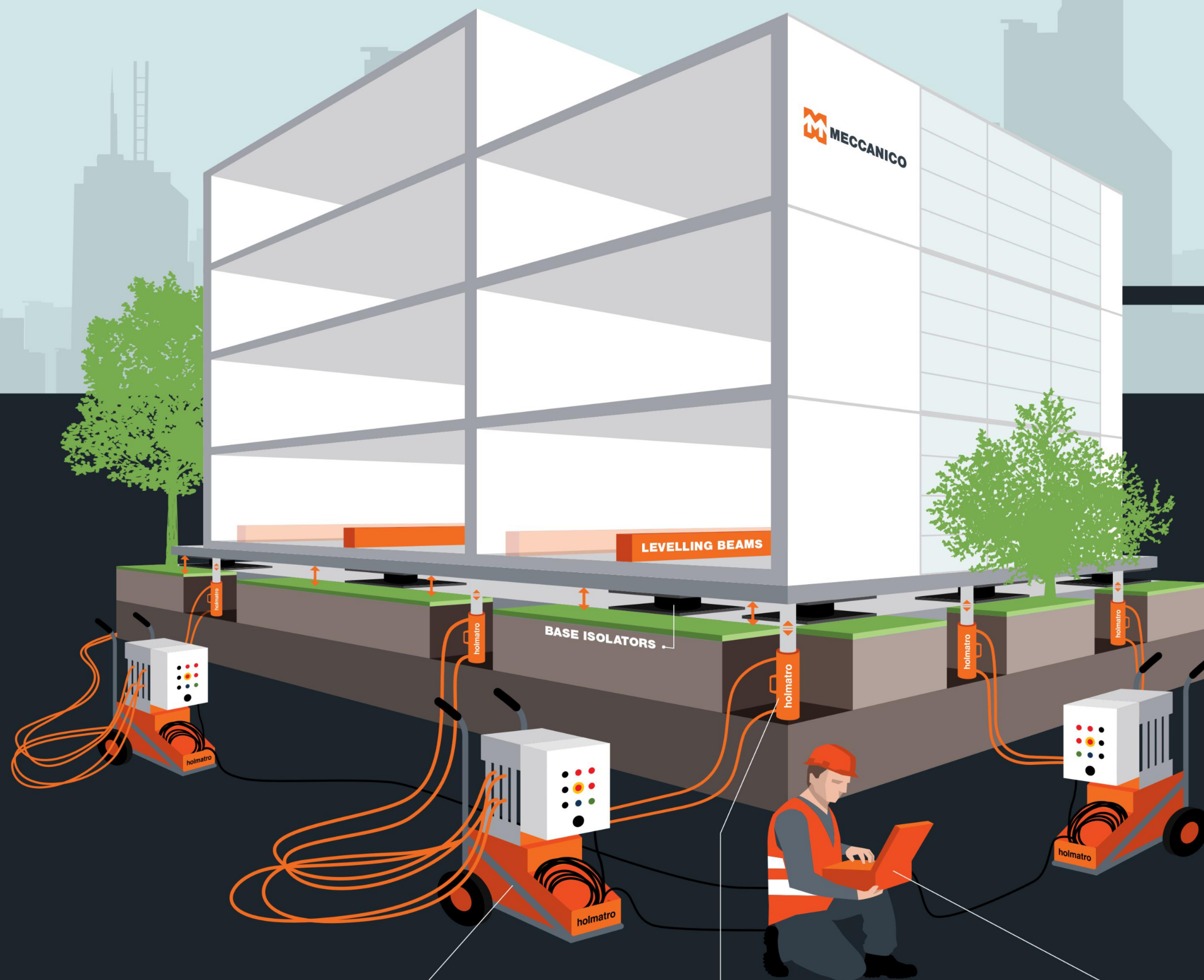
A new concrete bridge on the Northern Expressway required the bearings to be reset at one end, using a synchronised lift. However, at the other end the bridge required levelling, due to settlement. The weight of the bridge was a total of 1000 tonnes and it was fully reset in just a couple of weeks.



► SEISMIC

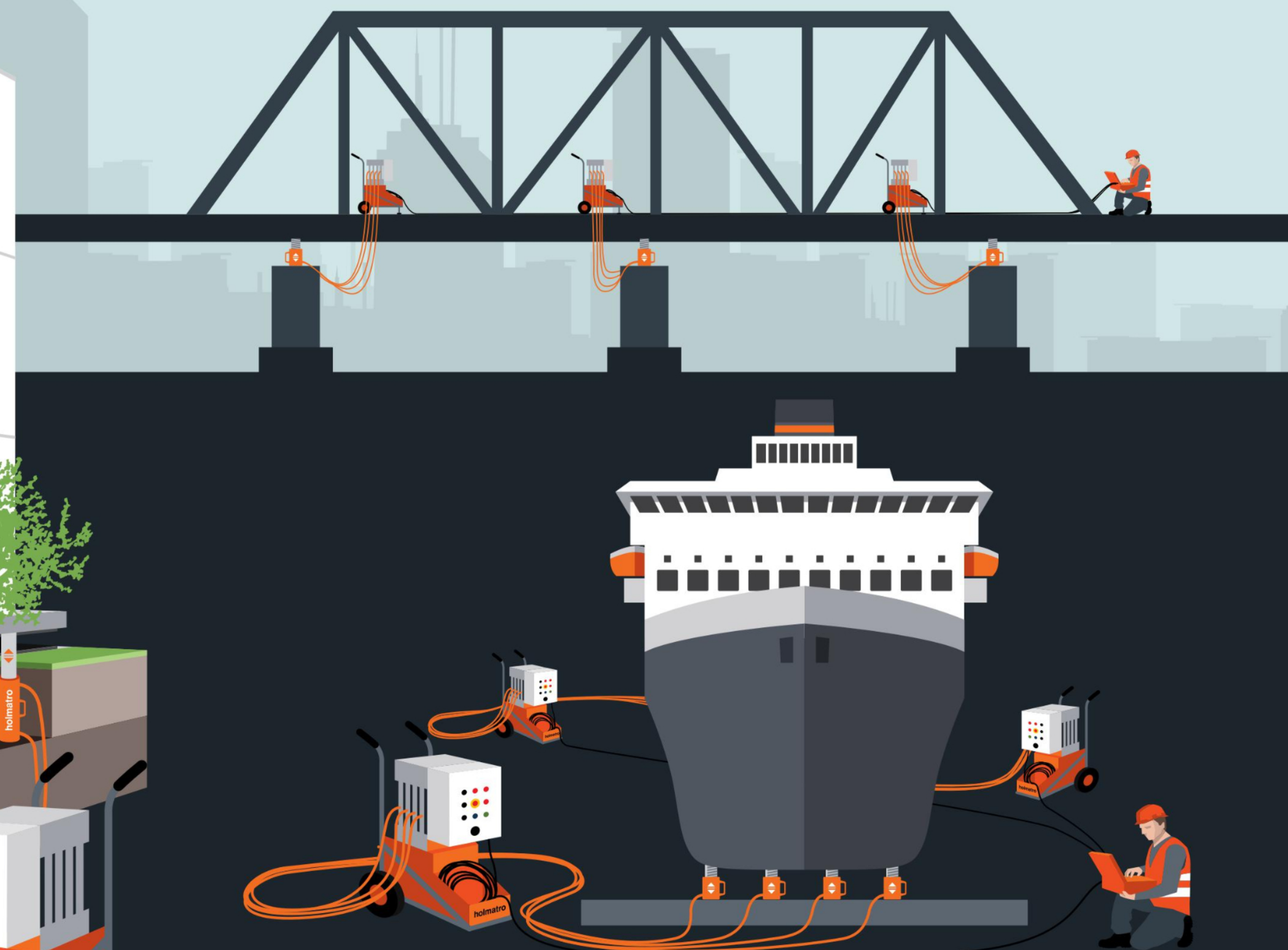
Rankine Brown, Victoria University, Library | Wellington

Meccanico worked with a Wellington main contractor to retrofit base isolators at the Rankine Brown (Victoria University) Library. Collaborating with the engineers and other companies involved, we determined how to undertake the lifting to take the load so the contractor could cut the structure to install base isolators. We then control lowered back onto the newly installed isolators.



► ROADING, BRIDGES AND TUNNELS

The Holmatro system, utilised by Meccanico, can be used in the construction of tunnels where the concrete casings can be adjusted following hardening with vibration dampers placed beneath. Using Meccanico's advanced high pressure hydraulics system, no inadmissible stresses occur and the positioning is within a 1mm variance during lifting and lowering. Replacement of bridge vibration dampers can safely be undertaken utilising the same system and approach.



► BOATS AND SUPERSTRUCTURES

The unique Meccanico system enables new trawlers, super-yachts and other heavy structures to be weighed prior to transportation. This ensures that the correct size crane can be ordered and that required additional supports to wharves can be arranged which provides a safe and event-free virgin floating. During the weighing process, the centre of gravity can be pinpointed.

SPLIT FLOW PUMP

- Split flow pump allows accurate and controlled oil flow to each lifting point.
- Shorter hoses in order to minimise vibration and reduce hose damage.
- Modular system uses multiple split-flow pumps, each with four individual flows. Additional pumps can be added for extra capacity.
- Electric operation, plugs into a 15 amp power supply - use outdoors and indoors with no fumes.
- Compact and flexible configuration along with pump trolley allows easy access to difficult sites.

INNOVATIVE DOUBLE ACTUATED HYDRAULIC PUMPS

- Highly accurate controlled double action movement up and down.
- Even weight distribution enables safe and stable synchronised lifting.
- Precision incremental heavy lifting and lowering in stages from 1mm increments.
- 6000 tonne plus lifting capacity, additional pumps can be added for extra weight.
- Hydraulic pump sizes from 50mm cavity or void to 200mm height with multiple stroke solutions.
- Scalable system from 4 to 64 (or more) lifting points.

ADVANCED COMPUTER CONTROL

- Precision Synchronised lifting.
- Set exact parameters.
- Accurate weighing and centre of gravity location.
- Automatic configuration, testing, fault detection and safety stop.
- Continuous monitoring with auto correction at each lifting point.
- Detailed data reporting, capture and recording for engineering review.
- Intuitive user friendly software.
- 12 inch touch screen.



TECHNICAL JACKING SERVICES

► SUPERSTRUCTURE LIFTING / LEVELLING

Meccanico excavates to gain access under the foundations. The floor and foundations are carefully lifted as one - a very precise, controlled process (unlike traditional methods which can damage the floor and slabs as they are lifted). The floor is re-levelled then all voids filled. After levelling the concrete structure, we use GPR (Ground Penetrating Radar) to scan and ensure there aren't any voids under the slab - a vital step in the quality assurance process. Using this procedure, we can also demolish, remove and reinstate new concrete foundations or install base isolation.

► BRIDGE JACKING AND MAINTENANCE

Meccanico has the largest selection of heavy lifting jacks in the current New Zealand market. Our new locking jacks enable us to lock and support a load safely, whilst works such as bearing or bridging maintenance can occur. With the system being double acting, it gives us the flexibility to safely control the lifting and lowering of a structure to millimetre accuracy.

► CIVIL

Civil works requiring controlled, synchronised and safe lifting can be undertaken utilising Meccanico's systems and expertise. For example, replacement of bridge bearings and re-levelling following 'an event'.

► SEISMIC BASE ISOLATION & PERFORMANCE IMPROVEMENT

Meccanico are experts at retrofitting commercial and industrial infrastructure with seismic base isolation.

Meccanico lifts the building or structure, mounts base isolators, then lowers the structure onto the seismic bearings; isolating (decoupling) it from the ground. This technology has been proven to add value and protect medium rise masonry and reinforced concrete structures from the impacts of seismic movement.

► SPECIALISED HEAVY EQUIPMENT

Meccanico works in with other industries to lower and position very heavy equipment into its precisely required location. Safety is enhanced with our smooth operating system which works in 1mm increments if required. Use our system for plant construction, repositioning, maintenance, commissioning and decommissioning.

► BESPOKE ENGINEERING SOLUTIONS

Meccanico offers unique safe solutions to all aspects of jacking. If there is something that needs jacking or positioning, our innovative team will always engineer a controlled solution to best fit the application.

Meccanico designs and delivers bespoke solutions to even the most technical challenges nationwide.



PRECISION HEAVY LIFTING & LOWERING SPECIALISTS

Meccanico provide a bespoke, end-to-end heavy lifting and lowering service for Commercial and Industrial projects throughout New Zealand.

We offer nationwide coverage with offices in Christchurch, Wellington and Auckland.

OFFICES ▶



CONTACT ▶

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