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The heart of your building™



KONE ReSolve with Unity Drive™

KONE MODERNISATION SOLUTION FOR HIGH-RISE BUILDINGS

References and testimonials

Four Seasons Hotel Sydney, Australia

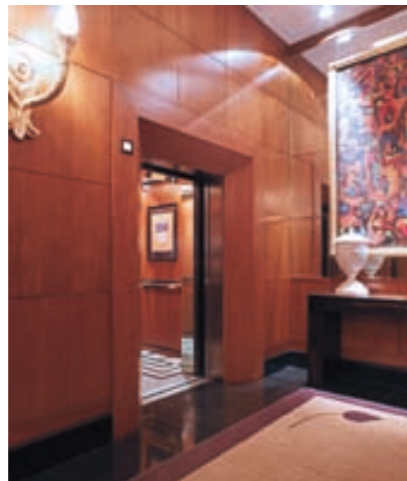
The Four Seasons Hotel in Sydney has undergone a major refurbishment. As part of the project, all six passenger elevators of the hotel were modernised. The elevator consultant was Norman Disney Young. KONE's state-of-the-art technology ensures that the complexities of renovation are well-managed. Space may be tight and installation more complicated than in new projects, but KONE provided appropriate solutions, in this case KONE ReSolve Exclusive™ and KONE ReNova™. Energy saving measures are likewise part of the KONE palette of alternatives.

"KONE are currently upgrading the elevators at 70 Pirie with the first elevator now in service and the second ahead of schedule. The building owners and tenants are very happy with the new elevator and the way that the whole modernisation is preceding. The modernisation includes their latest KONE ReSolve™ controllers and KONE ReNova™ door equipment as well as design upgrades. I would have no hesitation in recommending the team at KONE to any prospective customers."

70 Pirie Street, Adelaide, Australia Elio Colalancia,
Managing Director, System Design Engineering Pty Ltd.:



Four Seasons Hotel Sydney



Financial Street



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Value for your building

The purpose of KONE modernisation solutions is quite simple: to increase the value of your building by keeping the elevators running safely and reliably for the lifetime of your building. KONE modernisation offers advantages for all concerned. For users, it provides increased safety and comfort, as well as the aesthetic appeal of modern design. For building managers, it means minimum disruption and maximum availability of the equipment, guaranteeing optimal people-flow. For owners, this means predictable elevator life-cycle modernisation and budgeting, energy efficiency and reduced operating costs – for the full lifetime of the building.

KONE is a world leader in people flow management and has built an impressive portfolio of tools and processes specifically for modernisation. With KONE Care-for-Life™ service, KONE conducts a full analysis of the current installation and prepares a modernisation plan to raise the elevator to modern performance, safety, aesthetics and accessibility standards. The KONE Care-for-Life™ plan evaluates possible investment schedules and constraints and helps you both manage your investment and increase its value by offering the best modernisation solution for your needs.

KONE ReSolve™ provides a range of solutions for modernising your elevator's electrical system with proven technology. Our solutions offer you a comprehensive modernisation package featuring new electrification and drive system, innovative group control technology and a secure overlay system for large-scale projects. As an optional solution, you can choose a new car structure, including a new car design, signalisation and car door. KONE's clearly defined installation methodology and solid project management experience guarantee a safe and reliable process from start to finish.

KONE ReSolve with Unity Drive™ is especially suited for modernising high rise elevators with:

- Existing Direct Current (DC) hoisting machine
- Elevator groups of up to 8 cars
- High requirement for passenger traffic flow
- Speed: up to 7 m/s
- Floors: up to 63
- High requirement for floor levelling accuracy: +/-4 mm

Value of performance

Drive system

KONE ReSolve with Unity Drive™ utilizes the latest drive technology developed jointly by KONE and Magnetek. KONE ReSolve with Unity Drive™ modernisation solution offers you significant advantages over conventional DC systems.

By eliminating the motor-generator the energy-consumption will be reduced up to 30%, depending on the traffic patterns and elevator use.

The new KONE Unity drive, with its full line regeneration capability and near-unity power factor will provide a high performance solution which can further reduce the energy consumption compared to competitive products.

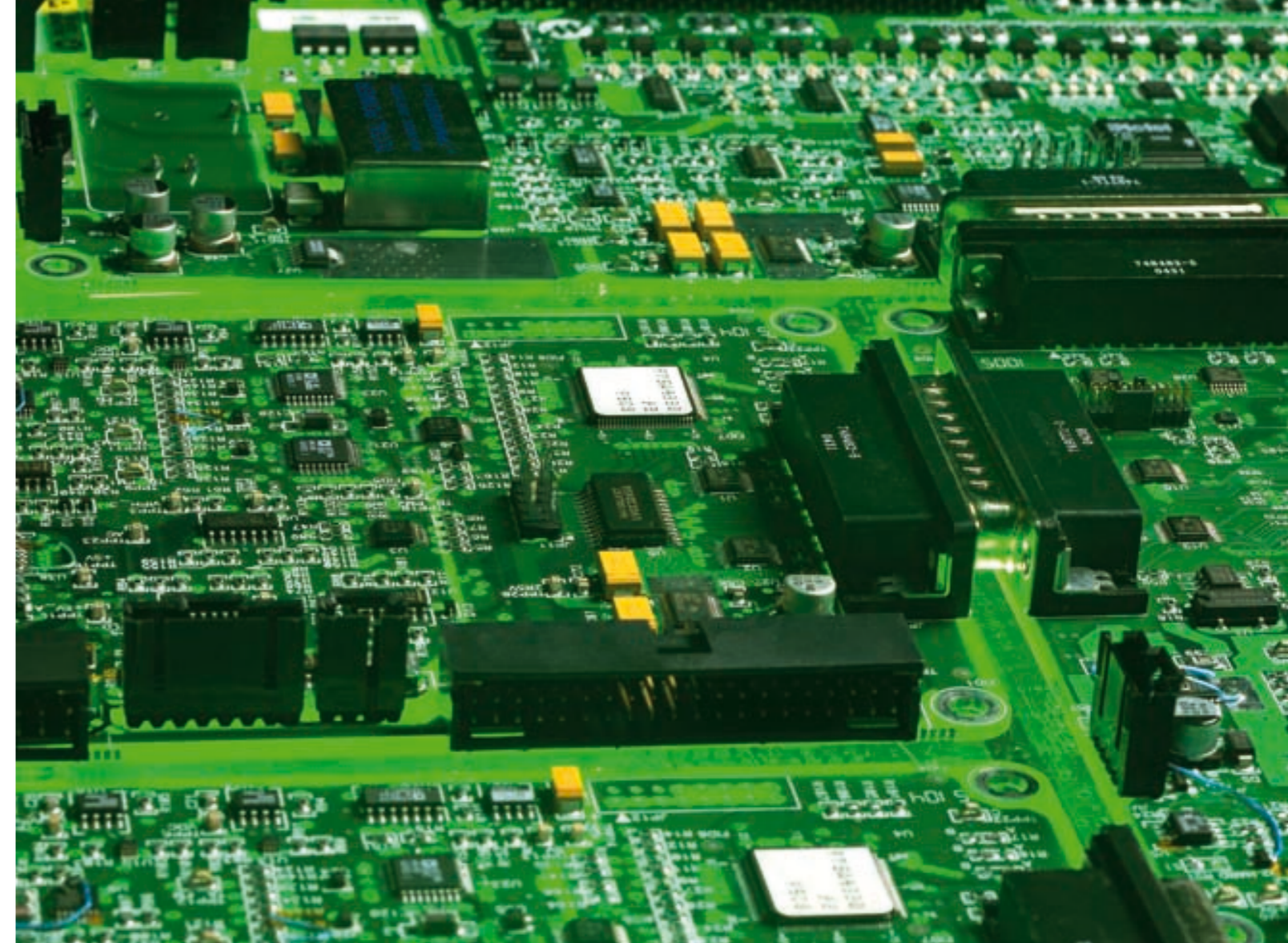
Unity power factor drive systems allow the energy consumption at the source to be balanced reducing the need for larger mains cables; KONE Unity also enables the elevators to regenerate almost as much power when they descend as they consume when they ascend. This means power is returned to the building system and you only use the power you need.

Furthermore the KONE Unity drive system offers clean harmonics to help in reducing the reactive power consumed in the building and avoiding disturbance with other sensitive electrical equipment.

The average harmonic disturbance is now reduced to 8% from 30% for a normal conventional system (Harmonics level meets requirement of IEEE 519 at drive terminals.)

There is a growing trend around the world to develop regulations regarding power line disturbances. The KONE Unity drive offers superior performance now, rather than later.

With the growing trend around the world towards green building and greater focus on sustainability various means to obtain overall energy savings have become increasingly important.



Value of reliability

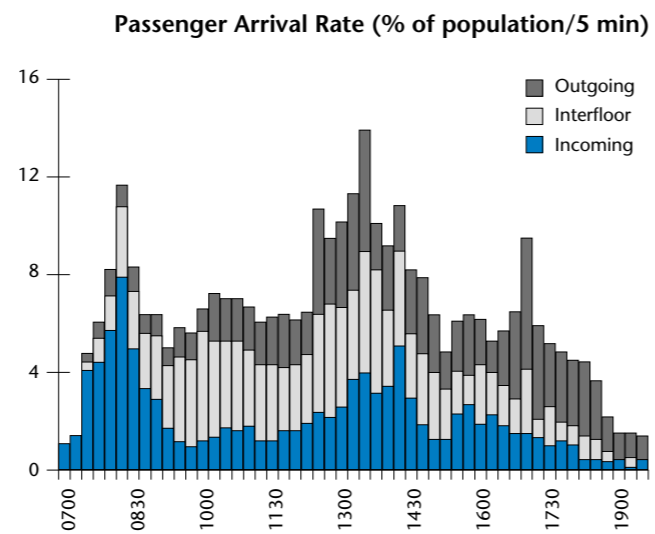
Electrification

Modernising the elevator's electrification is the best way to increase the performance and reliability of elevators. Improved floor levelling will increase the safety and comfort of your current equipment.

KONE ReSolve with features a closed-loop control, which directly controls the current to the motor to ensure accurate floor levelling. It uses the actual speed and position of the elevator car in the hoistway in conjunction with car speed and location determined by a motor mounted digital encoder. A patented algorithm allows load compensation at both normal and levelling speeds.

KONE ReSolve with Unity Drive™ significantly enhances passenger safety. In many old elevators, the possible existing levelling accuracy is as high as the floor plate physical dimension: up to +/-150mm. With KONE ReSolve™ the levelling accuracy is +/-4 mm. No other existing products perform better.

This serial transmission based control system architecture with its robust wiring solution leads to significantly fewer wires in the elevator shaft another means of further improving the equipment reliability.



Value of innovation

Group control

At the core of KONE ReSolve™ lies the KONE TMS9900 GA technology, which has been a driving factor in KONE's successful KONE Alta™ solutions for high-rise buildings.

The high-speed TMS9900 GA call allocation process consists of four stages:

- Passenger flows are recorded, identified and measured for short-term and daily traffic statistics
- Artificial intelligence is used to learn the traffic patterns and generate forecasts for each weekday
- Based on this knowledge, a fuzzy logic module generates detailed models of the prevailing traffic patterns
- The measured traffic data and momentary prevailing traffic patterns combined with actual drive time and stop time data, are then processed by the Genetic Algorithm.

The result is optimised dispatching decisions and landing call allocations in all traffic situations, with a reduced waiting time of 50% compared to conventional relay systems.

Other KONE solutions to maximise traffic handling

Upgrading to KONE Polaris Pro™ destination control system is a convenient and cost effective way to increase the handling capacity without increasing the number of elevators. You can raise your elevator performance up to the highest level – without adding any new shafts in an existing building. KONE Polaris™ improves elevator performance, lowers total energy costs and improves tenant safety by providing personalised function options and guidance for users with special needs. Integration with access control systems improves a building's security. In buildings which experience intense traffic flow periods, e.g. offices and business complexes, KONE Polaris Pro™ helps cope efficiently with the changing conditions the building needs a system that can optimise its dispatch algorithms throughout the day. KONE Polaris Pro™'s real-time control system alters its optimisation routines during the day depending on the traffic intensity.

Value of peace of mind



Overlay

The KONE MDE-2000 Modernisation Overlay System is a tool that can be used during the modernisation phase of larger elevator groups in order to maintain the operation of modernised and existing elevators within a single group.

MDE-2000 replaces the existing group control system and greatly improves the call allocation performance, with immediate effect. It also provides a crucial benefit of enabling the existing elevators to operate jointly with the newly modernised elevators; thus ensuring maximum performance from all elevators during the difficult modernisation phase.

Given the advanced control technology and the unique system architecture, an MDE-2000 installation causes minimal disruption in elevator service. Depending on the particular installation, individual elevators are often out of service for only the few hours needed to connect them to the MDE-2000 adapter computers.

