

The heart of your building™

KONE

THE MACHINE-ROOM-LESS ELEVATOR PLATFORM

KONE MonoSpace® Special

KONE

– technology you can trust

Increased urbanization has had a tremendous effect on elevator development. The constant search for space-saving solutions has led to the development of more compact elevator technology. KONE has always been a forerunner in this field. Our elevator technology is among the most innovative in the industry, whether it's for efficient people flow management, advanced hoisting technology, energy and space efficiency, or passenger convenience and aesthetics. You are sure to find the best solutions for your needs from our full range of platforms, designs and options.

We are committed to providing high quality to our customers and the general public, and we have numerous well-known and demanding references to prove it. For example, w International Airport, Trump Tower in Chicago, Swiss Re and Broadgate Tower in London, Delhi Metro in India and many other prominent landmarks around the world have all trusted KONE.



KONE MonoSpace® revolutionary elevator concept

In 1996, KONE changed the industry forever by introducing the KONE MonoSpace® platform, the first machine-room-less elevator on the market. Since then it has become the standard that other elevator manufacturers have tried to copy.

When you are selecting your elevator platform, KONE can offer you several alternatives. We can help you analyze the transportation requirements in each project and recommend the ideal elevator system. The KONE MonoSpace® Special platform can serve up to 36 stops and transport up to 2000kg (26 persons), at a speed of up to 2.5m/s^{*)}. For more details on the range and specifications, please refer to the KONE MonoSpace® Special Planning Guide.

Easier building design

KONE MonoSpace® Special requires only a single space – the hoistway. So the machine room is no longer needed. The lack of a machine room gives architects and developers greater design freedom and saves construction costs. And elevators can now easily serve the penthouse, without unsightly bulges on the roof.

Award-winning technology

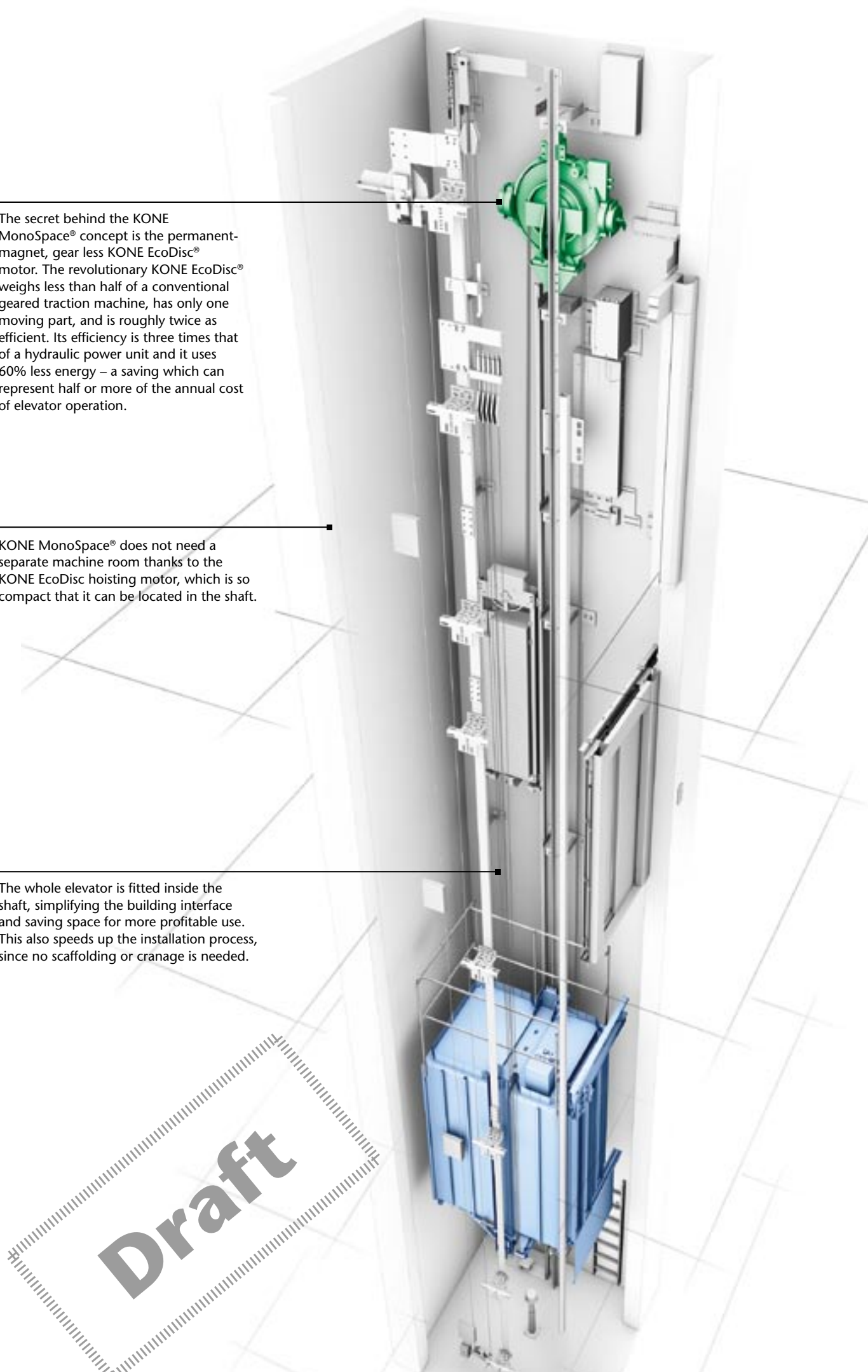
KONE MonoSpace® has won numerous prestigious awards worldwide for its energy and space efficiency. For more information, visit www.kone.com.

Substantial cost savings

KONE MonoSpace® Special uses less space, so you can lease more space. It also saves construction time, materials and costs. Its streamlined delivery process and efficient installation method ensure that the elevators are not a bottleneck during construction.

Impressive customer testimonials

KONE MonoSpace® has not only been praised on paper. Over 200,000 elevators have been installed – transporting millions of people every day and proving their reliability during years of operation.



The secret behind the KONE MonoSpace® concept is the permanent-magnet, gear less KONE EcoDisc® motor. The revolutionary KONE EcoDisc® weighs less than half of a conventional geared traction machine, has only one moving part, and is roughly twice as efficient. Its efficiency is three times that of a hydraulic power unit and it uses 60% less energy – a saving which can represent half or more of the annual cost of elevator operation.

KONE MonoSpace® does not need a separate machine room thanks to the KONE EcoDisc hoisting motor, which is so compact that it can be located in the shaft.

The whole elevator is fitted inside the shaft, simplifying the building interface and saving space for more profitable use. This also speeds up the installation process, since no scaffolding or cranes are needed.

^{*)} For speed greater than 2.5 m/s and loads please contact KONE for alternative platforms.

Draft



KONE EcoDisc® – gearless energy miracle

In 1996, KONE took the technology lead in the elevator industry by developing the KONE EcoDisc® hoisting machine. Over the years KONE has constantly increased the application range of KONE EcoDisc® hoisting technology thanks to its energy and space efficiency, reliability and excellent ride comfort.

KONE EcoDisc® is the core technology for all KONE gearless elevators. It employs a permanent magnet synchronous motor, frequency control, and low-friction gearless construction.

Comparing the KONE EcoDisc® with typical conventional hydraulic and 2-speed traction elevators confirms clear technological advantages:

Item	Hydraulic	Traction	EcoDisc®
Speed (m/s)	0.63	1.0	1.0
Load (kg)	630	630	630
Motor size (kW)	11	5.5	3.7
Main fuse size (A)	50	35	16
Energy consumption (kWh/y)	7200	5000	3000
Thermal losses (kW) *)	3.8	3.0	1.0
Oil requirements (l)	200	3.5	0
Weight (kg) **)	650	430	230
Typical noise level (??) ***)	65-70	66-75	50-55
Typical machine-room (m³)	5	12	0

*) 180 starts/h

**) Hydraulic: pump, motor, oil, container and lift jack included
Traction: hoisting unit and bed plate included
EcoDisc®: hoisting unit and fixing brackets included

***) Measured 1 m from machine

A reliable machine

The KONE EcoDisc® is a low-revving permanent-magnet AC gearless motor with high efficiency, low friction and only one moving part, the rotor. This leads to high reliability and extremely low levels of wear.

More efficient than conventional machines

The KONE EcoDisc® needs less starting current, consumes less power and needs no oil. Less starting current means a smaller back-up generator, which reduces costs. The gearless machine solution means no losses due to inefficient gears, no oil and lower maintenance and running costs.

The cost-saver

Significant cost savings are achieved by the use of lower-duty risers and fuses, made possible by a peak starting current of just 30 to 40 percent compared to equivalent traction units.

A safe and smooth ride

The KONE EcoDisc®'s low rotational motor speeds, combined with the V²F Drive system, offers unrivalled ride comfort.

Smooth acceleration/deceleration and precise stopping accuracy, ensured by intelligent controls, assure a safe and pleasant journey for elevator passengers.

Space-saving elevator design

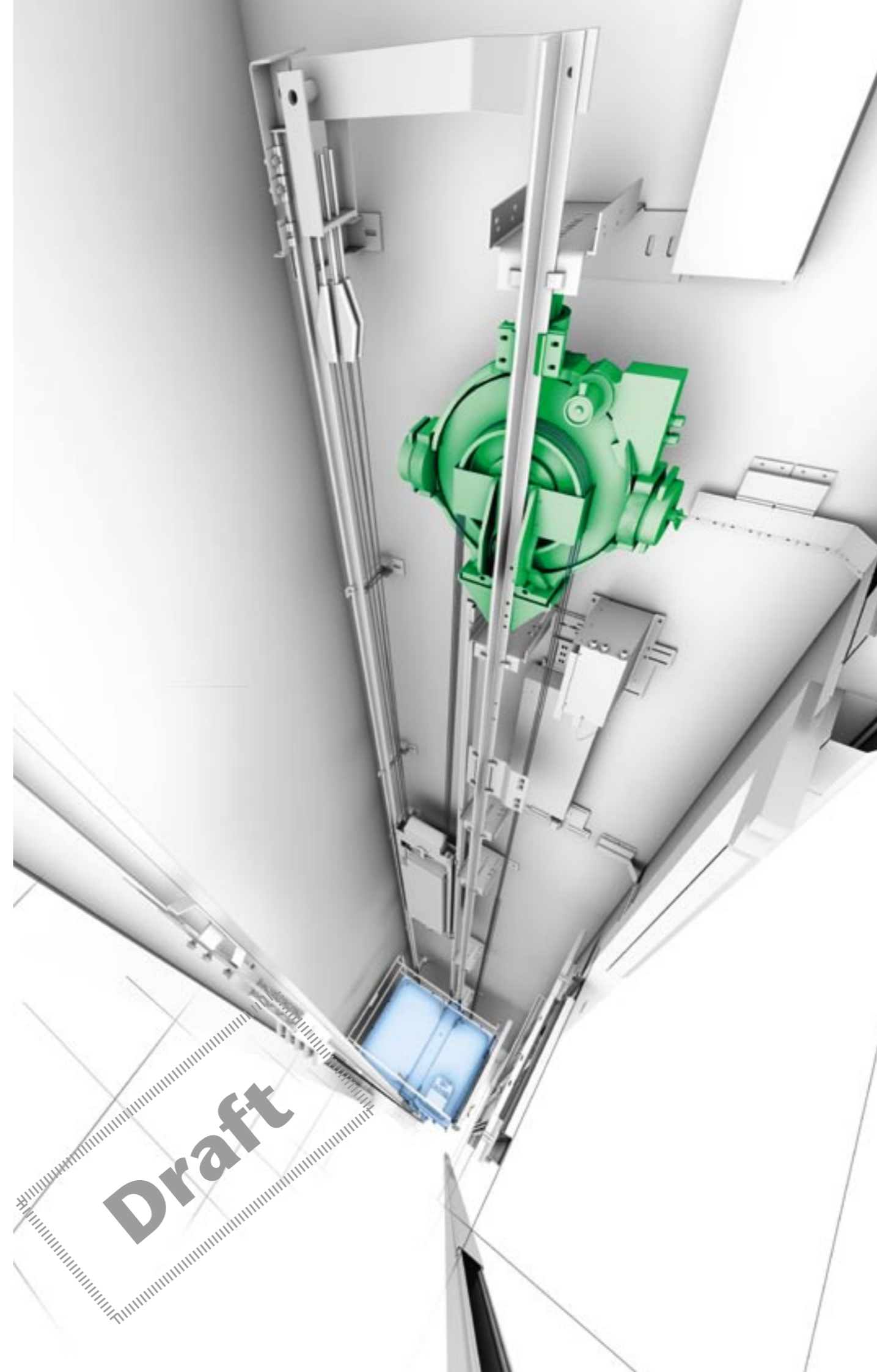
Installing the machine in the elevator shaft makes for a very compact design. There is no need for a machine room, which offers more space for building occupants. The weight of the machine is directly transmitted to the pit through the guide rails. The shaft walls take less load* and there are savings in construction costs.

Easy maintenance

All controls that need to be accessed for maintenance are grouped in a special, compact maintenance access panel that can be integrated into the top floor door frame or corridor wall.

Dependable LCE control system

A modular control system design using serial communication with self-diagnostic capability provides great reliability.



Through effective research and development, KONE continuously strives to improve the eco-efficiency of its solutions.

Minimizing the carbon footprint

The carbon footprint can be lowered by reducing the energy consumption of an elevator over its life cycle. KONE's solutions are energy-efficient thanks to a wide variety of features that combine both energy and space savings in the customer's premises.

KONE set the trend with KONE EcoDisc®, a lightweight, highly efficient hoisting machine. KONE EcoDisc® consumes 70 percent less energy than a hydraulic drive and 50 percent less than a geared traction elevator drive. KONE has also been the pioneer in introducing inverter drives and regenerative systems for elevator use. These can recover up to 25 percent of the total energy consumed, which can be converted for example in lighting the building.

Focusing on Eco-efficiency

The biggest environmental impact of an elevator is generated by its use. Consequently, reducing the environmental impact of an equipment is most effective when the product is being developed and the optimal solution for each building is being planned. For example, solutions such as the destination control system, where the passenger chooses his destination floor before entering the elevator, can significantly save energy by increasing handling capacity and decreasing the number of trips.

Reducing Standby Energy Consumption

When the elevator is idle, it still consumes energy. The standby energy is mostly consumed by the car lights, control devices, car ventilators, elevator drives and control systems. This standby energy consumption can account for 25 to 80 percent of the total energy consumed by the elevator, depending on its design and usage. Less frequent usage, for example in a small apartment building, means that a higher percentage of the electricity can be saved by reducing standby energy consumption.

KONE has developed various ways to save standby energy: After the last car call, the car lights and the car fan are switched off automatically; they come on again the next time the car is called.

The usage of LED lights reduces the energy consumed in car lighting by up to 80 percent and they last up to 10 times longer than halogen lights.

A few minutes after the last car call, the signalization automatically switches to standby mode. This can reduce up to 80 percent of the energy consumed by signalization.

When the car reaches the floor, corridor illumination control automatically illuminates the floor, thus reducing overall electricity consumption for the building.



KONE – the builder's, owner's, and user's choice

The value of your building depends on the impression it gives visitors and residents. Whether you are moving in or coming for a visit, the first impression is the one that lasts. The elevator plays an important role in this.

KONE's wide selection of designs and materials enables you easily to find the right car interior ambience to match your building's style.

KONE FourSeasons™ car interior family for KONE MonoSpace Special elevators represent the Four Seasons of Spring, Summer, Autumn and Winter. You can achieve the desired mood for your car interior by selecting from a designer's collection of complete car interior design solutions. You also have the freedom to mix and match the components in order to create thousands of combinations. (Ask for a catalogue of the complete range of car interiors and signalization packages).

KONE can provide custom designs to meet your needs; a wide range of special car designs is optionally available. Contact KONE for assistance with your choice.





Execution is the key

KONE MonoSpace® Special installation is straightforward thanks to the simple building interface. It can start early since a machine room is not required; it is also faster since there are fewer components. KONE has developed a dedicated scaffold-free installation method to assure fast, hassle-free delivery of KONE MonoSpace® Special elevators.

Excellent service around the clock

The elevator, like all technical equipment, requires regular maintenance to keep it running nonstop. With motivated maintenance personnel, the right maintenance program, and original spare parts, your elevators will retain their value year after year.

When developing our products, we always pay attention to serviceability. Our maintenance programs emphasize preventive maintenance. KONE maintenance is always near you, wherever you build.

Our global network of service specialists ensures that even the most complex technical challenge is resolved quickly and effectively. We provide flexible maintenance options to meet your specific needs. Our maintenance programs take into account the type, age, and usage of your equipment to maximize its reliability and safety and to minimize downtime and maintenance costs.





KONE provides innovative and sustainable solutions for elevators, escalators and automatic building doors. We support our customers every step of the way; from design, manufacturing and installation to maintenance and modernization. KONE is a global leader in helping our customers manage the smooth flow of people and goods throughout their buildings.

Our commitment to customers is present in all KONE solutions. This makes us a reliable partner throughout the life-cycle of the building. We challenge the conventional wisdom of the industry. We are fast, flexible, and we have a well-deserved reputation as a technology leader, with such innovations as KONE MonoSpace™, KONE MaxiSpace™, and KONE InnoTrack™. You can experience these innovations in architectural landmarks such as the Trump Tower in Chicago, the 30 St Mary Axe building in London, the Schiphol Airport in Amsterdam and the Beijing National Grand Theatre in China.

KONE employs over 30,000 dedicated experts to serve you globally and locally in 49 countries.

KONE Corporation
www.kone.com