

MODERNIZATION SOLUTIONS FOR RESIDENTIAL BUILDINGS

Elevator modernization handbook



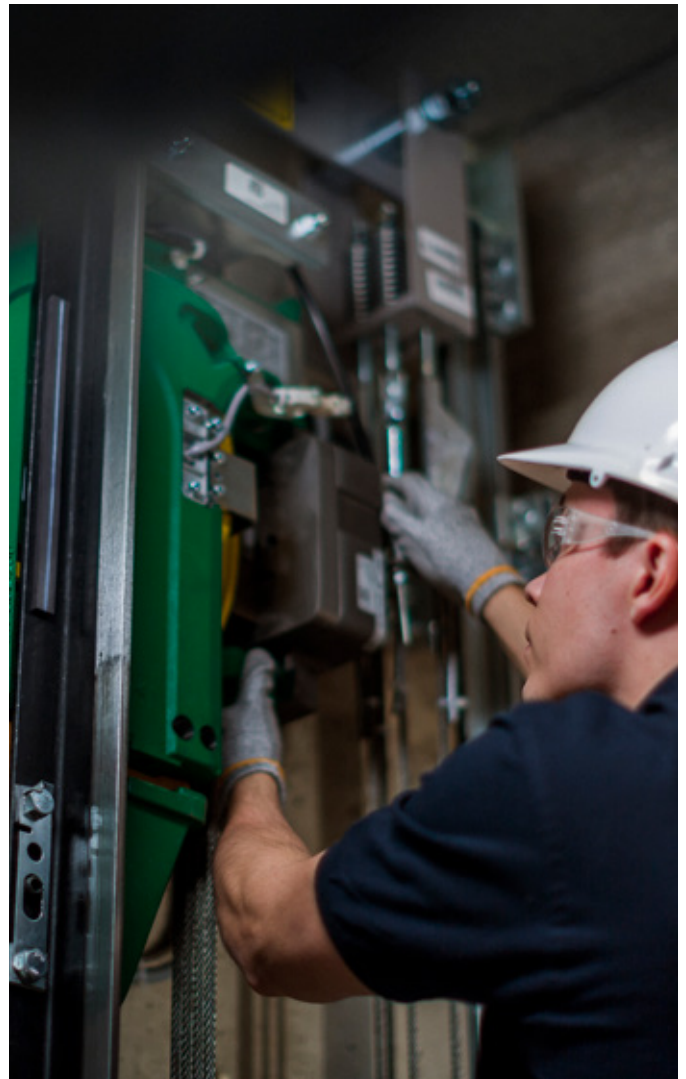
ELEVATOR MODERNIZATION – IT'S NOT HARD WHEN YOU KNOW HOW IT'S DONE

We've made this handbook as a step-by-step guide to elevator modernization. It includes examples of things for you to consider and explains how KONE can help. You can use this handbook in housing association meetings to help you plan your elevator modernization project.

Every elevator is different, so precise details about modernization will depend on your requirements and the needs of your building. If you think that your elevator needs improvement, contact us using the phone number on the attached business card. We can come and discuss further or a KONE technician can inspect the elevator and make a recommendation. This can range from small repairs to full replacement. Together we can evaluate the best way to make your home safer and more attractive.

If you decide on modernization, a dedicated KONE project manager will provide more information, answer your questions, and make sure the project moves forward as smoothly and efficiently as possible.

(BUSINESS CARD POCKET)



Elevator modernization is an investment that pays off in a number of ways. It reduces repair and energy costs, with potential savings amounting to thousands of euros. And a modern, spacious elevator adds to the value of your building.

IS IT TIME TO MODERNIZE YOUR ELEVATOR?

Like any other piece of electrical or mechanical equipment, an elevator eventually needs to be replaced or thoroughly repaired. After 25 years, regular maintenance may no longer be enough. As parts wear out, you may be paying more for repairs. It may be more difficult to find spare parts for an old elevator, so it may be out of order for longer. The old

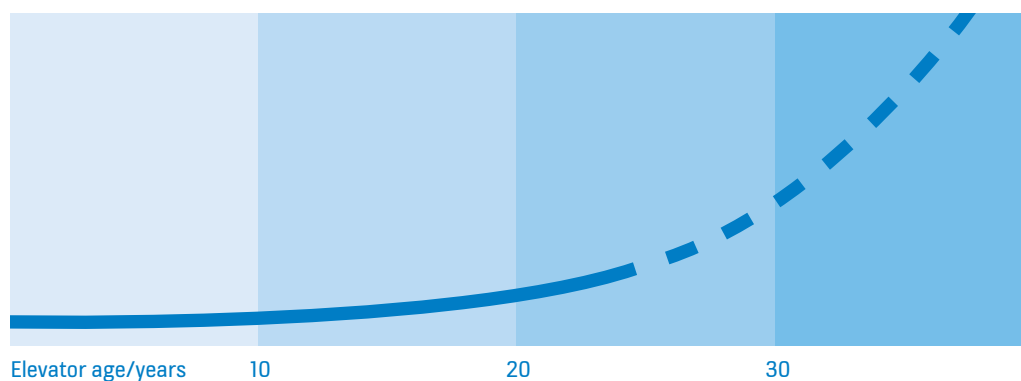
elevator in your building might not meet the latest safety and accessibility regulations. Using it could be difficult for elderly people or for someone carrying packages, and it could also be consuming more electricity than a modern solution. And a shabby, cramped, and unattractive elevator detracts from the value of your home.



FIVE THINGS TO CHECK

1. **Is your elevator often out of order?**
A modernized elevator reduces repair costs.
2. **Does it have heavy manual doors?**
Automatic doors are safer, quieter, and easier to use.
3. **Does the elevator stop level with the floor?**
Uneven leveling poses a safety risk.
4. **Is the car small and cramped?**
A new elevator can increase car space by up to 50%.
5. **Is the interior in poor condition?**
A smart new elevator interior adds value to your building.

INCREASING NEED FOR MAINTENANCE AND REPAIRS



After 25 years, elevator components start to wear out and need to be replaced. The elevator could be more expensive to maintain because of higher costs for repairs and parts. Now is the time to think about your options: replace individual components one at a time, or replace the entire elevator.

A THOROUGH ASSESSMENT

The first step is to assess the condition of your elevator using the checklist on the facing page. If there are several problems with your elevator, get in touch with us to arrange a thorough, no-obligation assessment of your equipment. This assessment can be part of any long-term renovation plans you may have for the building.

The assessment focuses on the requirements of your building and the people who use it. Our technicians closely examine your elevator's performance, accessibility, safety, eco-efficiency, and aesthetics. We'll advise you on the options open to you – ranging from minor repairs to full replacement – and the costs.

HOW CAN WE HELP?

- Our technicians perform a thorough inspection, free of charge, with no obligation to you.
- We make a recommendation for improvement. This can range from minor repairs to full replacement.
- The recommendation also includes a cost estimate.
- We provide information about EU regulations, subsidies, and permits.



A RANGE OF SOLUTIONS

Based on a KONE Care for Life™ assessment, we make a recommendation for improving your elevator. This can range from replacing individual components to full replacement.



COMPONENT UPGRADES

Component upgrades are a quick and cost-effective way to make small improvements to your elevator. Upgrades can cover things like the door operator, signalization, or lighting system.

We recommend component upgrades if your elevator:

- Has noisy doors
- Is fitted with outdated and impractical signalization
- Is more than 10 years old



MODULAR MODERNIZATION

Modular modernization significantly improves the performance of your elevator by updating entire systems. This type of modernization applies to things like the hoisting machinery, electrification system, or doors.

We recommend modular modernization if your elevator:

- Consumes a lot of electricity
- Does not level properly on landing floors
- Has an impractical or outdated interior
- Is 15 to 20 years old



FULL REPLACEMENT

With full replacement we completely remove your old elevator and install a brand new one in your building's existing shaft.

We recommend full replacement if your elevator:

- Has a small, cramped car
- Takes a long time to travel between floors
- Is often out of order
- Is 25 years old or more



HOW MODERNIZATION IMPROVES ECO-EFFICIENCY

- Modern signalization can be dimmed to save electricity.
- Standby lighting and ventilation cuts energy consumption.
- LED lights use less energy and last much longer than halogen lights.
- Energy regeneration systems recover energy and produce electricity.
- A modern hoisting system can significantly reduce energy consumption.

A FRESH START FOR YOUR ELEVATOR

Full replacement brings a huge range of benefits, particularly if your elevator is 25 years old or more. As well as having a lot more space, your elevator will be more reliable and energy efficient, meaning lower maintenance and energy costs. No more slow journeys in an untidy, cramped car or frustrations due to frequent breakdowns.

MORE SPACE INSIDE

With full replacement, you benefit from more space because we can fit a bigger car inside your building's existing elevator shaft. Imagine the difference if your elevator could carry six passengers instead of four and had modern, wide-opening doors that allow plenty of space for everyone to enter and exit.

CODE COMPLIANT FROM DAY ONE

Elevator standards exist to protect the safety of both passengers and maintenance personnel, and they are getting stricter all the time. From August 2017, all new elevators installed in Europe must comply with the EN 81-20 and EN 81-50 standards. When you modernize with KONE, you can relax in the knowledge that our solutions are code compliant from day one.

ENERGY EFFICIENT BY DESIGN

Full replacement can cut elevator energy consumption by as much as 60–70% (depending on the energy efficiency of your old elevator), primarily thanks to advances in hoisting technology. A modern elevator can also include LED lights, which use 80% less electricity than halogen lights and last 10 times longer. You can also add a regenerative solution that recovers energy for use elsewhere in your building.

YOUR BUILDING, YOUR CHOICE

We offer three solutions for full elevator replacement in residential buildings.

KONE NANOSPACE™

Space-efficient comfort from a compact, machine room-less solution with a streamlined installation process. With KONE NanoSpace, installation takes a matter of weeks and your new elevator car can be up to 50% bigger without any time-consuming and expensive changes to the shaft.

KONE COMBISPACE™

Practical by design, the compact KONE CombiSpace is designed for buildings with smaller shafts and is based on the same proven, state-of-the-art technology used in other KONE elevator solutions. It's the perfect fit when you're looking for a solution that utilizes your building's existing machine room.

KONE MONOSPACE®

A proven machine room-less solution that delivers big energy savings compared to hydraulic elevators. The KONE MonoSpace has a successful 20-year track record and is based on our eco-efficient KONE EcoDisc® hoisting technology.



A SAFE, MODERN ELEVATOR ADDS TO THE VALUE OF YOUR BUILDING

Modernization makes your elevator safer and more convenient for everyone in your building. For example, when carrying groceries or pushing a stroller, it can be difficult to enter an elevator with heavy manual doors. Another safety issue is leveling – how accurately the elevator stops compared with the landing floor. This is where accidents happen – just a few centimeters can make a big difference if you aren't expecting it.

Another big difference is the overall look and feel. The elevator is the first thing potential buyers see when they come to look at your apartment building, so it pays to make a good first impression. A modern, reliable elevator with a pleasant interior is a definite plus.

HOW MODERNIZATION IMPROVES SAFETY

- Adequate lighting prevents accidents and makes people feel safer.
- A two-way voice communication system gives passengers peace of mind.
- Automatic car and landing doors prevent accidents and improve accessibility.
- A curtain of light improves safety and comfort in elevators with car doors.
- Accurate leveling prevents people from tripping on the door sill.

FINANCING SOLUTIONS

Like any home improvement, such as fixing the roof or painting the walls, elevator modernization is an investment that pays off in the long run.

It's also not as expensive as you might think. Costs will vary depending on the individual case, but a typical full replacement costs about 50,000 euros. Divided among 20 apartments, this amounts to 2,500 euros per household, or about 40 euros a month over five years. The total cost to you may be considerably less, since in many countries subsidies are available to help building owners make elevators safer, more accessible, and more energy efficient.

FINANCIAL ISSUES TO CONSIDER

- Many European countries provide subsidies for modernization. These can cover up to 70% of the total cost.
- These may be supplemented by subsidies from local government and the EU.
- We offer different levels of modernization to provide flexibility when it comes to paying for your project.
- In some European countries, we can provide financing to spread the cost over several years.
- We can provide further information about available subsidies in your area.



FAST, EFFICIENT INSTALLATION – ON TIME AND ON BUDGET

Before the modernization work begins, our project manager will conduct a site survey together with your building manager to finalize the site requirements. We make sure that everyone who uses the building is able to move around safely and that all permits, plans, and calculations have been checked and approved by the relevant local authorities.

During the project, we do everything possible to minimize disturbance to everyday life in the building. Our installation team protects the floors, walls, and walkways to make sure they are not damaged, and makes every effort to keep noise and dust to a minimum. Residents can stay up to date with the schedule and progress of the modernization work by checking the KONE InfoMod bulletin board in the building lobby and staying in touch with the building manager.

INSTALLATION STAGES

- Site inspection to plan project and safe routes for residents
- Dismantling of old equipment and recycling or environmentally friendly disposal of materials
- Installation of new equipment
- Handover checks and quality inspection

GOOD TO KNOW

- Full replacement takes as little as two to six weeks on average, depending on the solution.
- We ensure that all required permits are approved by the relevant local authorities and that there are safe access routes for residents.
- You can stay up to date with schedules and progress via the KONE InfoMod board in the lobby.



Residents can stay up to date with schedules and progress via the KONE InfoMod board.

WELCOME TO YOUR NEW ELEVATOR

When the project is complete, our technicians carry out the final safety and performance inspections. This ensures that the elevator fulfills the relevant EU standards and that it performs according to your requirements. We also make sure that the materials left over from your old elevator are recycled or disposed of responsibly.

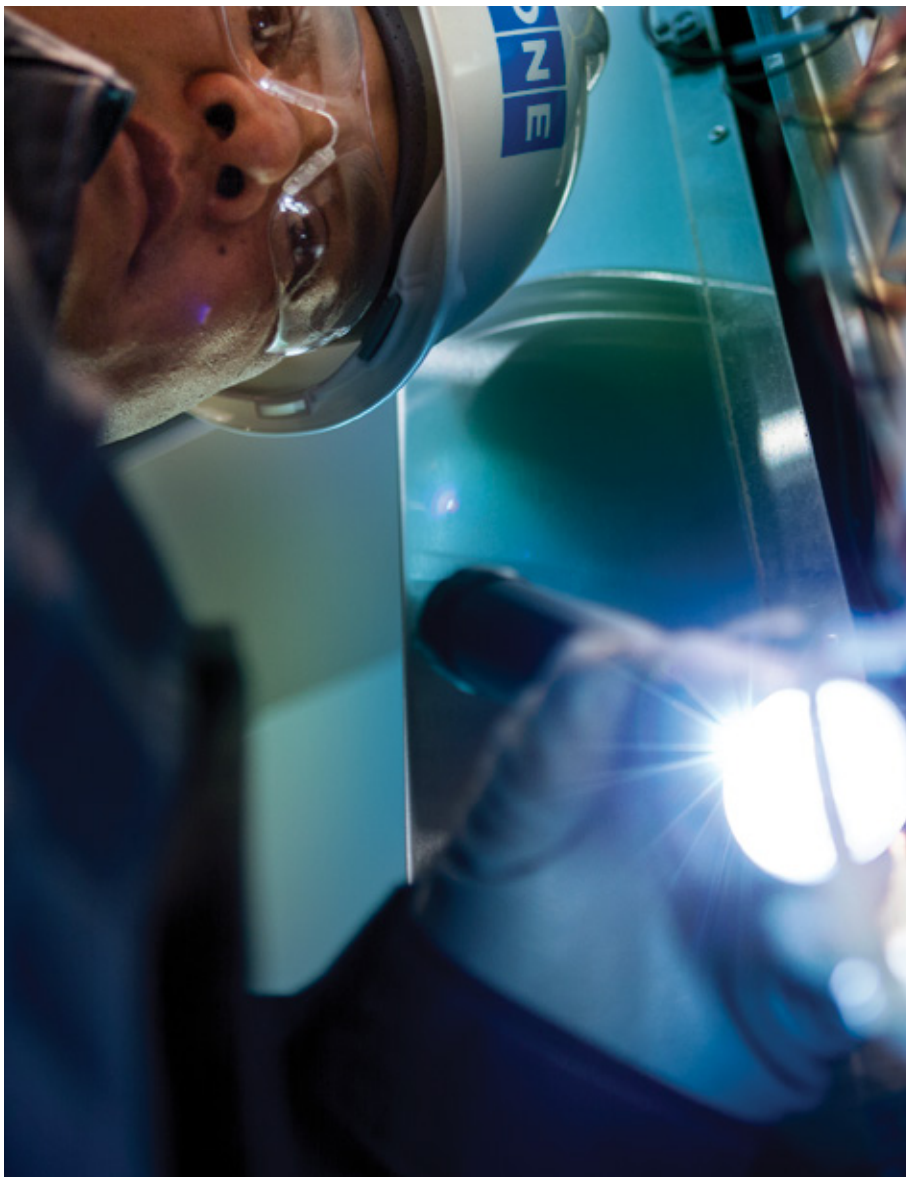
OUT WITH THE OLD, IN WITH THE NEW

- When the project is complete, we perform the final safety and performance inspections.
- An elevator modernized by KONE meets EU safety (EN 81-20) and accessibility (EN 81-50) standards.
- With regular preventive maintenance, your modernized elevator will provide reliable service for decades.



DECADES OF SAFE AND RELIABLE SERVICE

Installing your elevator is just the beginning – we are committed to you and your equipment for the long run, and will care for your elevator with a maintenance service that is customized for your specific needs. Our preventive maintenance keeps your elevator running safely and smoothly, and protects its value, by maintaining the right components at the right time. And when you need help, a local service technician is always close at hand.



EQUIPMENT WE MAINTAIN IS
AVAILABLE ON AVERAGE FOR OVER
99% OF THE HOURS IN A YEAR.



DUE TO OUR EFFICIENT SPARE PARTS
LOGISTICS, MOST MALFUNCTIONS ARE
SOLVED WITHIN A DAY, REGARDLESS OF
THE MAKE OR TYPE OF ELEVATOR.



OUR SERVICE TEAMS ARE ON CALL AROUND
THE CLOCK TO PROVIDE IMMEDIATE
ASSISTANCE – EVERY DAY OF THE YEAR.

INCREASED BUILDING VALUE



SAMMALKALLIONTIE 6, ESPOO, FINLAND

The elevators in this apartment building in Espoo, Finland, were 40 years old and had become unreliable. Repair costs were rising and the safety of passengers was becoming a concern.

KONE installed six new elevators in the building. The larger cars with automatic doors make it much easier for people to use the elevators, especially when they are carrying groceries or pushing a stroller. The new elevators are also safer for elderly people and children.

“I have received many compliments about the new elevators. Especially visitors have noticed, so I think they have an effect on the value of our building.”

– Ulla-Maija Nikkinen,
Resident and building association board member



Before



After

BEFORE AND AFTER

Six new KONE elevators were installed, which increased the amount of space in the cars. The heavy manual doors were replaced with automatic doors. These improvements make it easier to use the elevator while pushing a child in a stroller, for example.

The new elevators also cut repair and electricity costs, while more accurate leveling improves safety. For passengers' peace of mind there is a 24h voice connection with the KONE Customer Care Center.

MORE SPACE FOR PASSENGERS OF ALL AGES



BERLINER ALLEE 16, HANNOVER, GERMANY

This multi-purpose building has apartments, offices, and a medical practice, so the elevator has to provide access for all kinds of people, from babies in strollers to elderly people in wheelchairs. Unfortunately, the old elevator, installed in 1974, was small, cramped, and had narrow doors. People in wheelchairs had to be moved to a special, smaller wheelchair. The old elevator was also dark and shabby, which detracted from the image of the building.

The new elevator has wider opening doors and 60% more space in the car. This provides much easier access for passengers of all ages. The elevator can now carry eight people instead of five. Its modern appearance also gives an attractive first impression for people visiting the building.



FULL REPLACEMENT PAYS OFF

- Door width increased from 700 to 800 mm
- Car size increased by 60%, from 0.99 to 1.512 m²
- Capacity increased from 5 to 8 people
- Lower maintenance costs
- More attractive for visitors
- Equipment complies with EU and German safety standards

FREQUENTLY ASKED QUESTIONS

1 WHAT ARE THE BIGGEST SAFETY ISSUES IN OLD ELEVATORS?

Old elevators usually have an open car without a door, so that you can see the wall moving. They don't have a communication system, so people can't call for help in an emergency. Finally, an old elevator might not stop level with the landing, which can cause people to trip on the door sill.

2 HOW DO WE GET THE MODERNIZATION PROCESS STARTED?

The first step is to discuss it among members of your building's housing association and with your facility manager. If you decide that modernization may be necessary, get in touch with us to arrange a free, no-obligation assessment. The final decision is made by the housing association and facility manager.

3 WHAT SOLUTIONS ARE AVAILABLE?

If you decide to replace the whole elevator, solutions like the KONE NanoSpace™ and KONE CombiSpace™ will give you a bigger elevator car while also improving energy efficiency and reliability.

We also offer comprehensive KONE RePower™ packages that give you the benefits of new elevator technology while retaining the existing shaft and landing doors. Our experts will provide advice on the best solution for your building.

4 HOW DOES THE PROJECT PROGRESS?

The first step is planning. This defines the scope of the modernization and the best way to implement it. Once the housing association members decide to proceed, we do the final installation planning before removing the old equipment and installing the new elevator.

5 HOW LONG DOES IT TAKE?

About two to six weeks on average, depending on the solution. Smaller modernizations like component or modular upgrades can be done in just a few days, whereas full replacement takes longer.

6 CAN PEOPLE LIVE IN THE BUILDING DURING THE WORK?

We always plan the modernization process so that people can live and move around the building safely while the work is going on.

7 HOW MUCH DOES IT COST?

The cost will depend on the height of the building, the condition of the old elevator, and the scope of the modernization. As a rough guide, complete modernization or full replacement typically costs about 40,000–100,000 euros. For a five-story building with 30 apartments, the cost is around 100,000 euros. With KONE Financing for seven years, this would amount to an average of 40 euros a month per apartment.

KONE provides innovative and eco-efficient solutions for elevators, escalators, automatic building doors and the systems that integrate them with today's intelligent buildings.

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 NanoSpace™ and KONE UltraRope®.

KONE employs close to 50,000 dedicated experts to serve you globally and locally.

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