

# Enhancing safety. Ensuring sustainability. Schindler modernization solutions.

## Sustainability today

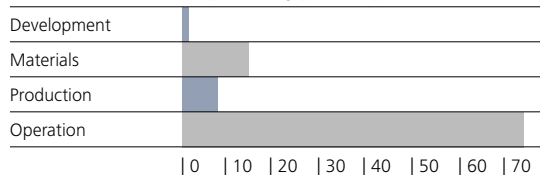
Sustainable urban development is a major challenge for the 21<sup>st</sup> century, impacting both the construction of new buildings and the modernization of existing ones in equal measure. Modernization today means ensuring safety, comfort and performance, and improving the environmental efficiency of buildings.

Schindler promotes sustainable buildings with its energy-efficient and ecologically responsible elevator modernization solutions, ranging from a selective replacement of individual components over pre-defined packages, to a complete elevator replacement.

## Efficient operation

Schindler elevator modernizations are designed to be highly economic in every respect: be it in performance, space or energy usage. From the first steps of development, to smart material use in production, through to optimizing energy consumption during utilization, Schindler is securing ecologically sound solutions today and for the future.

### Total environmental impact % by product phase



The energy consumed while an elevator is in service (operation phase) accounts for two-thirds of its environmental impact.

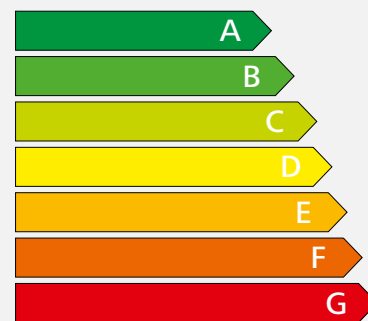
The energy required for the daily operation of a building has the biggest impact on the environment – the same applies to elevators. The amount of energy an elevator consumes while in service is crucial to determine its environmental impact; energy efficiency is therefore an important feature of Schindler elevators.

## Energy efficiency classification

Seven consumption classes provide a transparent and factual overview when rating elevators according to their energy performance. They range from "A" to "G", with "A" being the most efficient, best-

in-class system. The rating combines measurements of both standby and travel energy. The elevator's frequency of use, travel height and speed are also considered as they have a strong influence on the rating. The measurements and classification are a guideline for Schindler to further contribute to the development of sustainable buildings.

### Energy efficiency classes



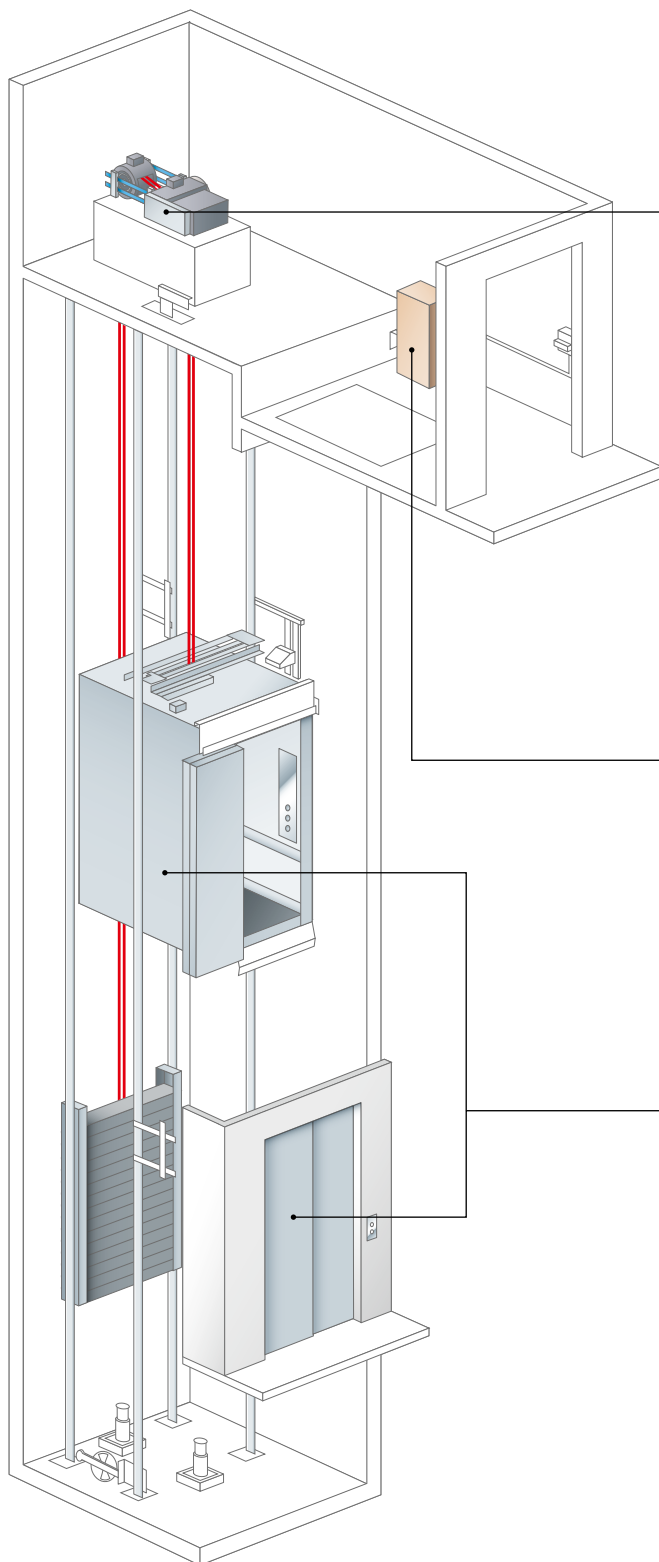
For reference, elevators modernized by Schindler have been evaluated according to VDI 4707. The results depend on the individual specifications and usage category. Efficiency class "B" can usually be achieved.

### Reference measurements

	Modernization Schindler 6200	Modernization Schindler 6300
Load (kg)	450	675
Speed (m/s)	1	1
Number of stops	7	7
Travel height (m)	20	20
Trips (per year)	50 000	80 000
Usage category	2	2
Operation	B	C
Stand-by	B	B
<b>Efficiency class</b>	<b>B</b>	<b>B</b>

The measurement standard is VDI 4707 established in March 2009 by the Association of German Engineers. The VDI standard applies to the assessment of energy efficiency of elevators. Installed units were measured as per a standard configuration.

# More brainpower. Less environmental impact.



## Long-term sustainability

Schindler modernization solutions are perfectly matched to the specific requirements of each building and to customer wishes. They contribute to building efficiency by meeting the latest safety codes and standards, improving comfort, availability and performance.

Individual buildings need different technologies. To meet them, Schindler's modernization solutions feature a wide range of environmentally efficient components:

## Drive

Specific building requirements such as height, speed and travel frequency define the standard for an accurate drive system – from small and flexible to permanent magnet-driven systems for higher travel demands. All drives are based on gearless frequency-controlled technologies to enable a direct power transfer for highly efficient energy use. Because there is no gearbox, no oil is needed for lubrication.

## Control

Whether single elevators or elevator groups, Schindler control systems ensure efficient utilization for passengers and energy usage. Bus technology reduces cabling, material and waste. If the elevator is not being used by passengers, the control switches the car lights and ventilation into stand-by mode. Smarter travel for less energy and less waste.

## Car & hoistway

Optimized weight and balancing as well as smart doors contribute to the system's efficiency. For example, an optimized balancing according to the average passenger load can be fitted in the Schindler 6200. This reduces the weight on the system and optimizes energy consumption. LED lighting, LED spots and energy-saving lamps also reduce energy demand, being automatically switched-off when the car is not in use. Selected door drives incorporate a stand-by mode, providing safety and energy efficiency at the same time.

**Sustainability. Delivered today  
and into the future.**

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