2 cabs, 1 shaft, 0 crowds.

TWIN
City populations are expected to increase by nearly 2.8 billion by 2050. And each day, all those people need to move, making efficient mobility in buildings not a luxury. And at ThyssenKrupp Elevator we have engineered solutions to maximize building footprints, minimize wait times and keep people — billions of them — safely on the move.

**TWIN**

2 cabs, 1 shaft, 0 crowds.

Traditional elevators in tall buildings require a large footprint and waste leasable space.

Double-decker elevators move more people by stacking cars. But inevitably, extra power will have to move empty cars and passengers will experience phantom stops. And since the cars are fixed, the floor heights must be the same, limiting design options.

TWIN is more efficient because you can park cars not in use. The flexible system works with different floor heights and it only stops on floors where passengers want to get in or out.
The TWIN elevator system has two cars, arranged on top of each other, that operate in one hoistway. Each elevator has its own traction drive, controller, ropes, counterweight and governor and share the same guide rails and landing doors. The cars move independently in the hoistway. However, they always have a minimum separation.

The efficiency of TWIN relies on the intelligent Destination Selection Control (DSC). DSC is like a concierge that directs passengers to the elevator that will get them to their destination fastest. It groups people traveling to the same floor together. The elevator makes fewer stops, improves efficiency and keeps tenants on the move. Before passengers step on the elevator, they just enter their destination floor on a keypad in the elevator lobby. Next the DSC system groups and assigns passengers to the same car. So interruptions from passengers who enter and exit the elevator at intermediate stops are kept to a minimum.

Elevator passengers can also benefit from pre-programming, which enables them to swipe an ID card or enter a numeric PIN code. Corporate branding can be added to touch screen terminals and VIP/emergency call overrides give tenants immediate access to an elevator. If you need to restrict access in your building, DSC can help with this too.

**TWIN, a precisely efficient elevator system**

Two independent cars in one hoistway save space

**It starts with a smart move**

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1. Touch screen or keypad is used to call an elevator.
2. DSC kiosk directs each passenger to the most efficient elevator.
3. Passengers arrive at their destinations faster.
Leaving nothing to chance
Safety is standard with TWIN

We provide four levels of safety to prevent two TWIN cabs in the same hoistway from getting too close to each other.

1. **Intelligent allocation of calls**
   Requests are always distributed by the destination selection control so elevator cars do not obstruct each other and a minimum distance is always observed.

2. **Monitoring of minimum safety distances**
   The minimum separation is constantly monitored automatically. In order to avoid an emergency stop, the system will stop at the next landing to allow the other car to move on before continuing to its destination.

3. **Emergency stop function**
   If the safety distance is breached, the system shuts down the drives and activates the brakes and triggers an emergency stop for both elevator cars.

4. **Automatic engagement of the safety gear**
   The safety gears of both elevator cars are activated in the very unlikely event that the first three safety stages fail or there is an insufficient deceleration of the elevator cars. It is not possible for the elevator cars to make contact.

- **TWIN is in compliance with ASME A17.7/CSA B44.7, A17.7 specifically intended for new elevator technology and practices.**
- **Safety level 3 and 4 will be monitored by an independent control system according to IEC EN 61508, giving TWIN the highest safety classification of Safety Integrity Level 3 (SIL3).**
- **Fully certified by the German TÜV inspectorate — the most stringent and rigorous safety standard an elevator can attain.**
- **CE Type certified.**
- **System satisfies the regulations in accordance with elevator directive 95/16/EC and EN 81-1 with approved deviations and is EN 81-AS compliant.**

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How TWIN can help you

- **Handle more traffic**
  Whether used in new buildings or as part of a modernization project, TWIN can transport up to forty percent more passengers, significantly increasing the utility of the building.

- **Save money**
  TWIN is extremely cost-efficient. The elevator cabs share two expensive elevator components, guide rails and landing doors. So you buy less heavy machinery. Plus they share the same shaft, drastically cutting construction labor and materials. There is a small amount of additional effort on installation, but for buildings over 164 feet tall, TWIN pays dividends for years to come.

- **Reduce energy consumption**
  Unlike a double-deck elevator system, TWIN can park one cab while the other stays in operation. So when passenger volumes are low, no energy is consumed moving empty cars. Furthermore, all TWIN elevator systems can be equipped with an energy recovery function which can feed about 30 percent of the energy back into the building’s power grid.
Move more with less

TWIN for new installations

An excellent choice for buildings with a large number of tenants.

- Significantly more handling capacity with fewer elevator hoistways compared to conventional elevators
- Save money by reducing the construction needed to build more elevator hoistways
- Increase your leasable space

TWIN for modernization projects

Use TWIN to modernize properties.

- Transport more passengers with two elevator cars in one hoistway
- Replace elevators that can no longer handle the building capacity and passenger comfort
- No need to build new hoistways and you may even reduce the number of elevator hoistways you already have
- Free up space to route data technology or install an air-conditioning system

TWIN makes the case

CHALLENGE: Minimize the space needed for elevators to increase leasable office space.

SOLUTION: TWIN elevator systems reduced space needed for the elevators by 29,000 sq ft, an increase of 6 percent of leasable space.

The 13-floor office, St. Botholph Building in London, houses eight—the world’s largest group—of TWIN elevators. In the planning phase, it was determined the building population of 5,000 people would need two groups of six to eight conventional elevators and the construction of 14 shafts. But the property stakeholders did not want to sacrifice the space needed to house two elevator banks.

Next, a double-deck installation was considered. However, that undesirable alternative required a large amount of shaft head height, heavy cars, and meant that all the floors would have to be the same height.

By using eight TWIN® systems, only eight shafts were required and less power was needed to move lighter cars. There were also less space requirements in the shaft head and machine rooms, which increased leasable space and reduced construction cost.

CONVENTIONAL

TWIN

ONE SHAFT LESS

HIGHER HANDLING CAPACITY, SMALLER CORE
Special planning
Groups of lifts with TWIN

As a rule of thumb, one elevator group is sufficient for buildings with up to 35 landings. For buildings with more than 35 landings, a division into low-rise, medium-rise or high-rise groups is recommended.

Starting with a travel height of approximately 492 feet, configurations using distribution floors and transfer levels as well as hoistways “stacked” one above the other is recommended. These groups are usually located in the projection area of groups of elevators underneath and are linked to the ground floor landing by express elevators.

During the morning rush hour, the TWIN system divides the hoistway into “virtual zones” in the area where both elevator cars can move independently from one another. Passengers in the upper zone of the building enter the upper TWIN elevator car via the upper access level. The same principle applies to the lower elevator car and the lower zone of the building. After the morning peak traffic, the virtual zones are “opened” and both TWIN elevator cars serve the complete hoistway.

When installing a TWIN system, it makes sense to provide two access levels connected by escalators. This minimizes high concentrations of waiting passengers.

TWIN quickens the pace

TWIN is the only elevator system with two cars that move independently in one hoistway. Simply put, TWIN makes the most efficient use of available space, uses less energy and quickens the pace of building tenants all over the world. ThyssenKrupp Elevator knows that the time to develop advanced people-moving technology is now and now is the time for TWIN.