

Elevator Technology

# MOD solutions


Elevator modernization



thyssenkrupp







engineering.  
tomorrow.  
together.

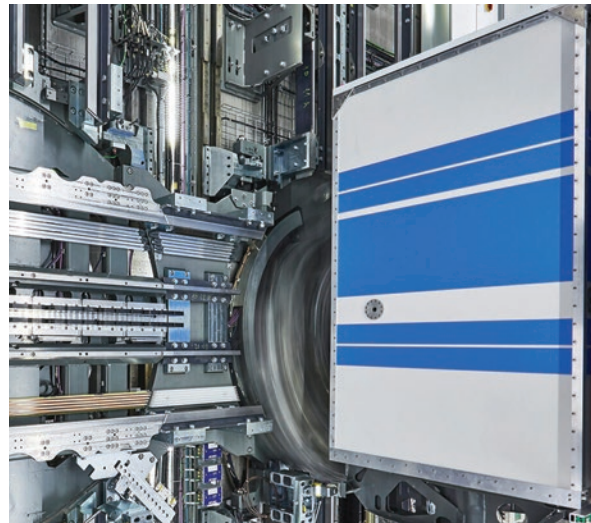
## Making cities better.

Half of the world's population now lives in cities. And urban populations are expected to grow by another 2.8 billion people by 2050.

To meet changing resident and business demands, cities need to adopt efficient urban planning and infrastructure development. They also need to create solutions for keeping people mobile in the midst of rapid growth.

As your urban mobility leader, thyssenkrupp Elevator is reshaping the elevator industry and transforming cities. We're constantly evolving, with new products like MULTI, the world's first multidirectional elevator, and MAX, our predictive maintenance solution.

To help customers and cities grow, we introduce evolution 200. It's a low- to mid-rise elevator that's been developed for you.



MULTI: our award-winning multidirectional elevator



At thyssenkrupp Elevator, our aim is to make cities the best ever places to live: to move people safely, comfortably and efficiently, today and tomorrow.

We do this by intelligently applying existing technologies and developing next-generation solutions – working closely with you to advance an industry that moves more than 1 billion people per day, worldwide.



MAX: real-time predictive maintenance

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engineering. tomorrow. together.

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# Bring power and precision to your aging equipment.

In even the best-maintained buildings, aging elevators and escalators can be a letdown.

They need increased maintenance and service calls, yet suffer in performance and energy efficiency.

Tenants get upset with slow and out-of-service equipment, building owners pay higher costs and building managers feel stuck in the middle.

thyssenkrupp has a simple solution for these challenges: modernization.

We replace your equipment's critical components, making it perform and look like new. The entire process can be completed with minimal downtime and disruption.






The doors aren't working properly. Again!

Our energy bills keep getting higher.

I am tired of waiting for my elevator.

Elevators are not as nice as my old building.



The background of the image is a vertical composition of two architectural styles. On the left, a traditional red brick building features a window with a wooden frame and a classical stone column with an ornate capital. On the right, a modern glass skyscraper is visible, its dark frame and reflective windows mirroring the sky and clouds. The text is overlaid on the left side of the image, spanning across the brick building and the glass building.

You have  
the power to  
stay competitive.





With each modernization package, we replace your key elevator and escalator components with the latest code-compliant technology.

Your modernized equipment will command respect while increasing your building value.

#### Why choose thyssenkrupp

- ➞ Four elevator modernization packages suitable for most models and budgets
- ➞ Full escalator modernization package
- ➞ Each newly installed component meets code requirements
- ➞ Our modernization process is designed for minimal tenant and building disruption
- ➞ You'll gain improved equipment performance, reliability and energy efficiency

thyssenkrupp modernizes and services all competitor (OEM) equipment.  
Contact us to learn more.

# Breakthrough performance and lower costs.

When you modernize, newly installed components raise your equipment performance and energy efficiency. This means lower costs.

## **Elevator and escalator controllers**

Known as the “brains” of elevators and escalators, our feature-rich controllers revitalize older equipment. They include:

- Fully digital, 32-bit microprocessing
- Smaller components
- Reduced wiring
- Automatic adjustments to traffic demand
- Improved energy efficiency
- An absolute positioning system for accurate floor leveling (elevators only)
- A solid-state starter, which minimizes power surges (hydraulic elevator only)

## **Elevator and escalator drives**

Provide equipment movement. With our modernization packages, you can receive:

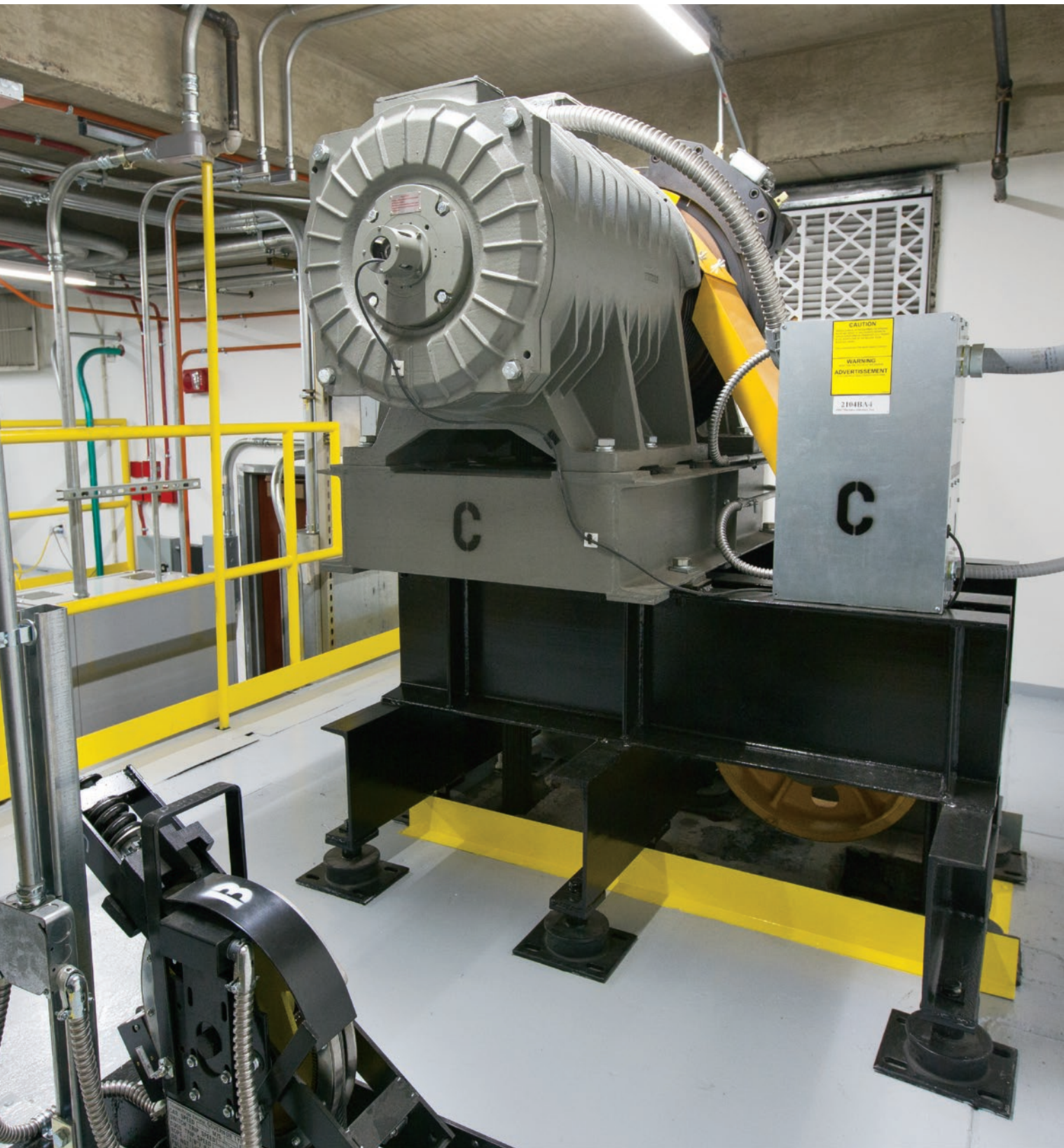
- High-tech drive motors
- Regenerative drives

## **Hydraulic elevator pump units**

Lift your hydraulic elevator. Your new submersible pump unit and conventional jack will boost your elevator power. Yep, we’re still talking about elevators.









# Before

Pictured: a machine room with outdated machines and controllers.





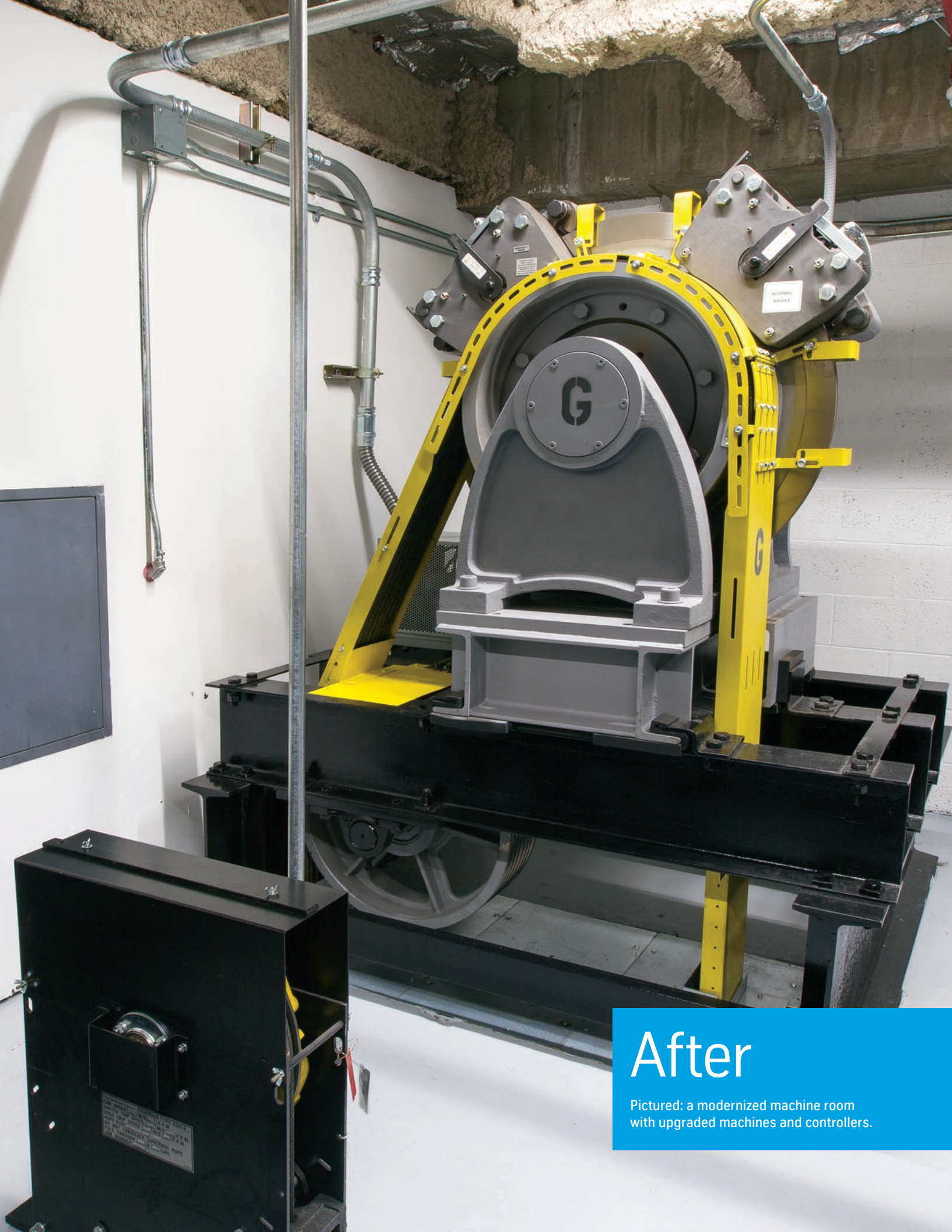
# Seeing is believing.

From the improved ride quality to the gorgeous aesthetics, tenants will instantly know you've modernized.

But a peek behind the scenes shows the real modernization magic.







# After

Pictured: a modernized machine room with upgraded machines and controllers.





# The power to enhance passenger safety.

With each modernization package, your equipment receives code-compliant parts that enhance passenger safety.

Included with each package:

**H-Power (hydraulic modernization)**

Battery-lowering units are a major benefit in entrapments. They provide power to the controller during outages and eliminate the need for a power generator.

**G-Power (geared modernization) and  
GL-Power (gearless modernization)**

An Absolute Positioning System precisely measures your elevator's speed and positioning. This promotes accurate floor stopping, so floors are level and passengers have less tripping risk.

**G2-Power+ (geared to gearless modernization)**

A dual breaking system prevents unintended elevator motion. You'll appreciate it.

**ES-Power (escalator modernization)**

Escalators receive the latest ASME-approved safety devices, sensors and switches.

**Surely you've noticed we love safety. This brings us to OEO.**

Occupant Evacuation Operation (OEO) is the quickest way to evacuate people from high-rise buildings. Software operates the elevator system during fires while hall station screens direct building occupants to safety. OEO is available with your modernization.





# MAX means higher elevator uptime.

Modernized elevator equipment is better designed and needs less maintenance. But over time, wear and tear can't be completely avoided.

That's where MAX comes in. Let's MAXimize your modernization.

## **MAX prevents problems before they occur**

Combining the power of cloud computing, big data and machine learning, MAX monitors your elevator in real time. Like a 24/7 digital partner, it continually collects data about your components and systems, and sends it to the cloud.

## **Smarter maintenance and service**

The data is analyzed, and algorithms determine when your equipment will require maintenance from our technicians. We call this predictive maintenance. It's revolutionary and can reduce your elevator downtime by up to 50 percent.

## **MAX is like having a digital partner**

Installed with your modernization, MAX uses cutting-edge technology to help you avoid the frustration and inconvenience of out-of-service equipment. We're always improving MAX, so you can expect its benefits to get bigger and better over time.

### MAX in action:



Data collected



Precise  
diagnoses



Predictive  
intervention



# The power to reduce complaints.

Rest easy. We've invested in more than 13,500 expert service technicians whose focus is keeping your equipment on the move.

**Our service technicians are available 24/7**

After your equipment modernization, you can expect fewer service calls. But when something does go wrong, you can be confident we're ready to help.

Our Communications Center staff is available 24/7 to quickly take your call, while our service technicians are on the road day and night — never far from your equipment.

**Your equipment also receives preventative maintenance**

Equipment with constant use needs constant care. We provide this through our preventative maintenance packages, which include regular inspections and adjustments.

You also get MAX with any modernization. It's our predictive maintenance solution that dramatically reduces elevator downtime.

**Regardless of your elevators' and escalators' condition, we're ready to help.**



# When no one complains, you know it's working.

As most building managers know, malfunctioning doors are the leading cause of elevator service calls. They also frustrate tenants and building owners, and raise operational costs.

With your elevator modernization, we install a Universal Door Operator (UDO). This innovative technology makes elevator doors perform better than new.

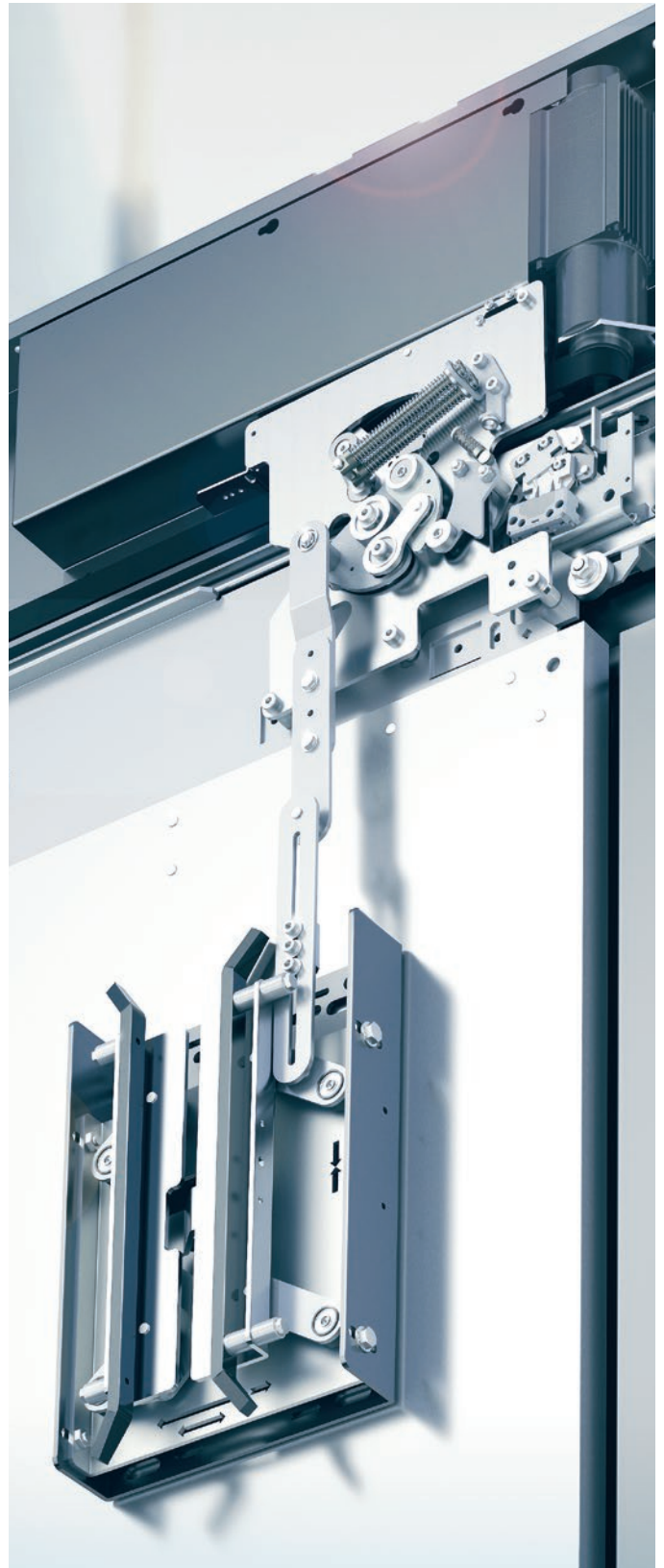
After your UDO is installed, you can expect:

- Increased passenger safety and ride confidence
- Reduced service calls and costs
- Smooth, quiet and faster door operation
- Reduced elevator downtime
- Improved building traffic flow

## **Easy UDO integration with existing door equipment**

Your UDO is easily attached to your existing cab header, and includes track hangers, a clutch-mounting kit and door adapter angle.

It uses a permanent magnet drive motor, ensuring powerful but quiet door operation. The belt drive system creates reliable motion without backlash. Your modernized door system will be smooth like silk.





# See this old energy hog?

It's ugly and costly.

With our modernization packages, your equipment receives energy-efficient parts to help lower your energy costs. It's all code-compliant.

With certain packages, you can choose energy-saving features that provide even more cost reductions.

## **Regenerative drives**

Energy from elevator and escalator movements is captured and stored in your building grid.

## **Improved power management**

Elevators and escalators can switch into standby mode when not in use, reducing the controller's energy consumption. In addition, automatic fan and light shutoff can reduce elevator cab energy use by up to 90 percent.

## **LED lights**

These come standard. LEDs last up to 25 times longer than traditional lights while using 75 percent less energy. They also produce barely any heat.

## **Low-emitting cabs**

Your elevator passengers can breathe easy. Our elevator cabs are third-party validated (UL Underwriters Laboratories) to be low-emitting.



# 39% savings

total power consumed by machine, after regenerative drive installation

Source: thyssenkrupp Elevator Regenerative Power Case Study



# Choose from our modernization power packages.

We have packages for all major types of elevators and escalators.  
And don't forget: we modernize and service competitor (OEM) equipment.



## **H-Power (hydraulic modernization)**

Designed for hydraulic elevators, this performance-optimizing package replaces more than 30 critical components.

### **New features include:**

- Upgraded digital controller
- Power unit
- Universal door operator
- Fusion fixtures
- Safety upgrades
- Wiring package



## **G-Power (geared modernization)**

We replace your geared traction elevator's hoist motor while cleaning and reusing your existing machine.

### **New features include:**

- Upgraded digital controller
- Geared machine updates
- Upgraded fixtures
- Hoistway safety devices



## **G2-Power+ (geared to gearless modernization)**

We replace your geared machine, controller and motor generator with the latest digital controls technology. You'll instantly feel the improved ride quality.

### **New features include:**

- Upgraded digital controller
- Gearless AC machine
- Universal door operator
- Upgraded fixtures



## **GL-Power (gearless modernization)**

We replace your gearless machine with a new AC gearless machine. This improves speed and performance while reducing dirty machine room dust.

### **New features include:**

- Upgraded digital controller
- Machine-gearless technology
- Regenerative drive
- Microprocessor
- Upgraded fixtures
- Hoistway devices



## **ES-Power (escalator modernization)**

We replace everything but your escalator's truss and cladding. This improves its safety, reliability, energy efficiency and appearance.

### **New features include:**

- Handrail speed monitoring
- Modern finishes
- Auxiliary main drive shaft brake
- Remote monitoring
- Audio messaging systems










It gets  
even  
better.



Whether it's  
inside or outside,  
modernization can  
make your equipment  
look and perform  
better than new.







# After

Pictured: Top, a modernized lobby with upgraded Destination Control and fixtures. Bottom left, a modernized door with UDO upgrade. Middle, an upgraded machine room with new machines and controllers. Bottom right, modernized roller guides.





# Let's keep your tenants on the move.

After modernizing your elevator, you'll love the upgraded performance, reliability and energy efficiency.

Make your elevator system even better by adding AGILE. It offers four intelligent elements that improve your elevator's efficiency, aesthetics and security. Best of all, it reduces building congestion. But it won't do anything for your allergies.



## AGILE – Destination Controls

### **Better passenger experiences**

Groups passengers traveling to similar floors together. The result? Shorter ride times, fewer stops and less building congestion.



## AGILE – Management Center

### **Make data-driven decisions to manage performance**

Use your elevator data to make smarter decisions and adapt to tenant requests. It's all about optimization.



## AGILE – Design Center

### **Touchscreens direct passengers to destinations**

Lets you customize the touchscreen kiosks passengers use to select their floor. You can choose our graphics and backgrounds or use your own.



## AGILE – Security Access

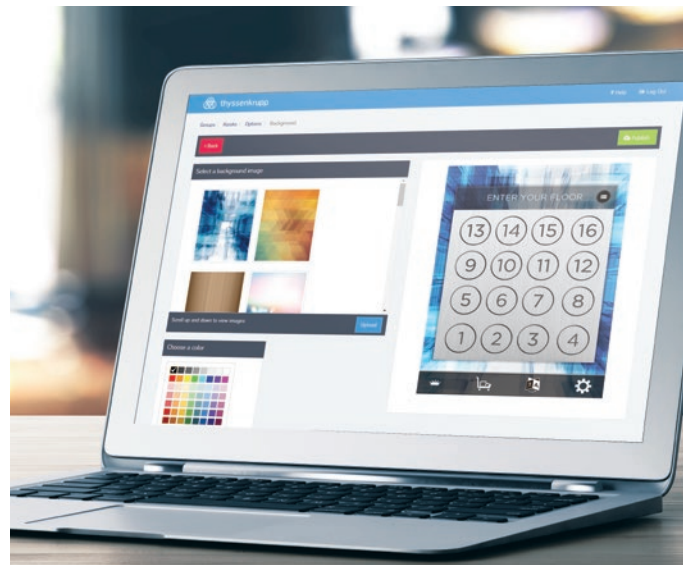
### **Increase your elevator and building security**

Integrates with your building security system or functions as a stand-alone system. You can meet your desired security by controlling access to specific floors.






New AGILE kiosks are easily added to your existing Destination Dispatch system.

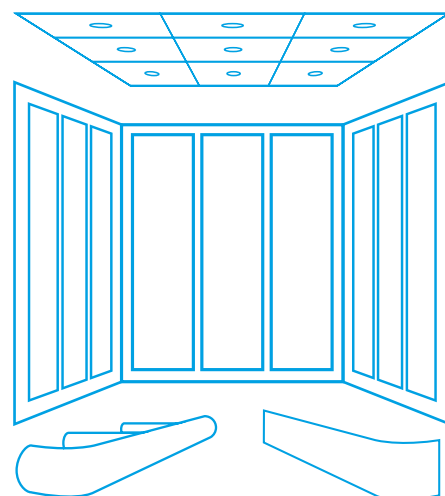


Design custom screens for the AGILE kiosk touchscreens using AGILE – Design Center.





# The power of new appearances.



## Elevators

Refresh your cab with new finishes, such as plastic laminates, powder coats, metals or woods.

Choose from a variety of options for the lights, walls and handrails to update your elevator cab design.





Aging elevators and escalators don't just decline in performance — they suffer in appearance. You see it clearly, and so do prospective tenants.

With thyssenkrupp's modernization packages, you'll pick from a variety of design and aesthetic upgrades. Your equipment will look like new.



# A higher level of speed and service.



Choose from either or both modernization Advantage packages to add performance, reliability and efficiency with fewer hassles.

**Accelerated Install Package**

Whether it's adding crew or working more hours, we'll make the modernization process faster and more convenient. In some instances, our crews can complete your job over the weekend.

Sounds enticing, right?

**Project Management Package**

Your job is to manage the building, not to modernize the elevators. From the moment our crew arrives, to the moment the inspector leaves, you'll have a dedicated project manager taking care of everything with your upgrade. That includes electrical, HVAC, finishes and code compliance. We even manage the scheduling and payments to subcontractors required to complete the job.





# The power to get it done.

Let's face it: a modernization is more complex than a new installation. You need to know someone is here for you if an issue comes up.

Relax. We support you through the entire modernization process — from planning through completion. In addition, our online support tools are available 24/7.



Try our online support tools at  
[www.thyssenkruppelevator.com/tools](http://www.thyssenkruppelevator.com/tools)

## Online tools:



**Elevator Finder**  
Learn which elevator is right for you.



**Elevator Specification Generator**  
Get elevator specifications based on your requirements and design features.



**Create-A-Cab**  
Build your cab interior with our simple configuration tool.

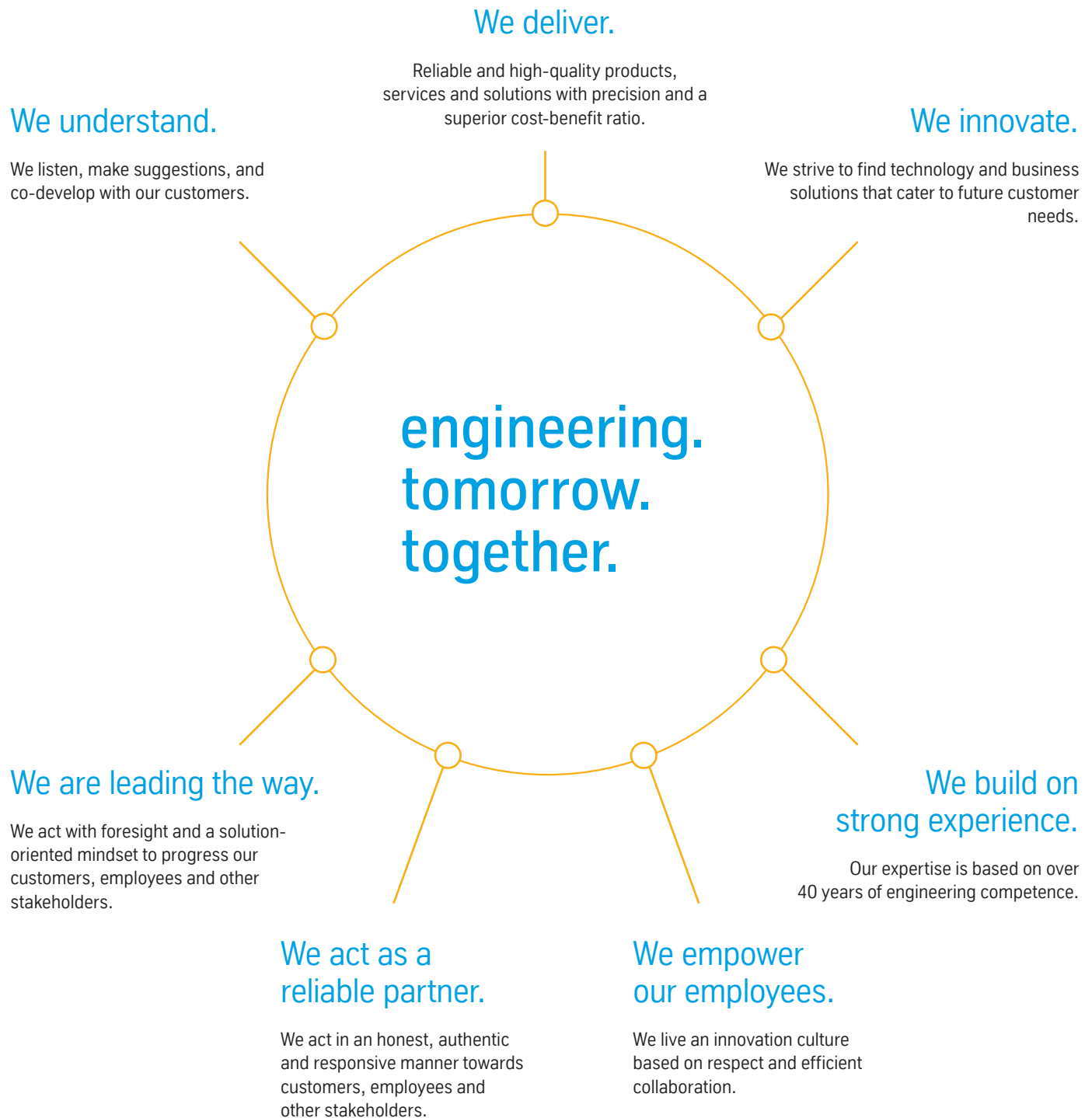


**Energy Calculator**  
Learn your potential energy consumption and costs.



**Service Portal**  
Access your service account using our portal.

# Our core principles.





1,100,000

elevators and escalators under maintenance

customers in

150

countries

50,000+

employees

Always  
there.

Our passionate goal is to always be there to secure the reliability of mobility equipment, ensuring it provides each passenger with the safest and most comfortable travel experience, thereby helping to make cities the best ever places to live.

900

locations

24/7

service available for  
customers

27,000+

service  
technicians

## Elevator Technology

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