How to optimize ENERGY CONSUMPTION in pumping systems in DISTRICT HEATING Plants

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GRUNDFOS

GRUNDFOS

Possibility in every drop

At Grundfos, we have been working with district heating and cooling networks for more than 50 years.

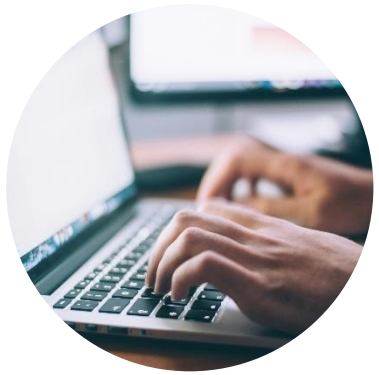
Delivering innovation through energy-efficient solutions for new grids and optimization solutions for existing grids.

Being a trusted partner, available locally, equipped with the right knowledge and experience to provide pre-sales and after-sales support.

Why Grundfos?

Your trusted partner in district energy

We specialize in delivering high-efficiency, reliable pumping solutions tailored to your needs. With extensive experience in large-scale district energy projects, we provide pre-sales and post-sales support to ensure success throughout the project life-cycle.



Local expertise, on-demand

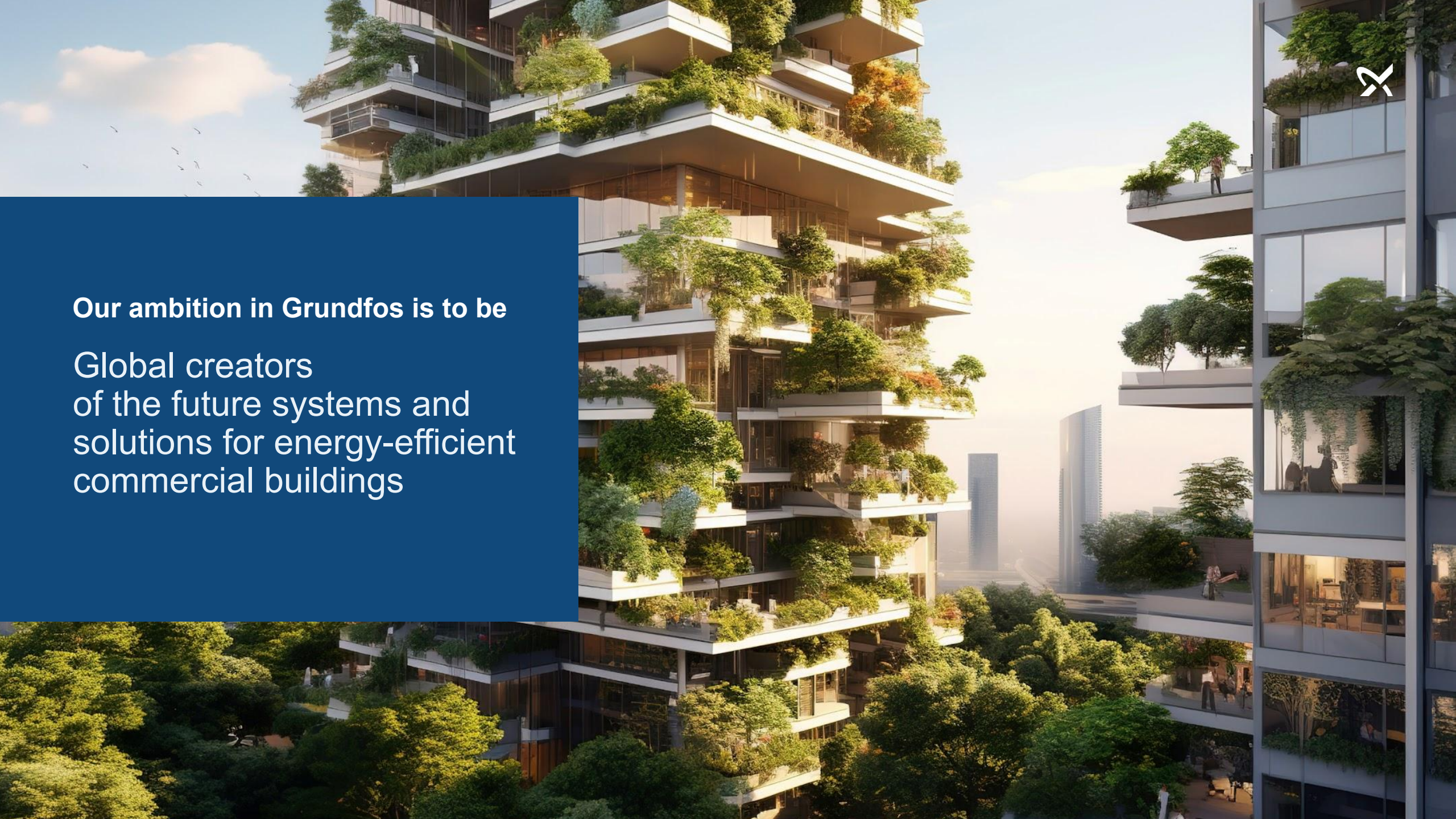
We ensure that our technology, service, and sales teams are readily available where you need them most. With a strong local presence and a robust service network, we deliver the pre-sales and post-sales support critical to your success.

Comprehensive support at every stage

From design and quotation to commissioning and start-up, our dedicated team is equipped to support you at every stage of your project with fast, qualitative service.

Energy-efficient solutions for new and existing grids

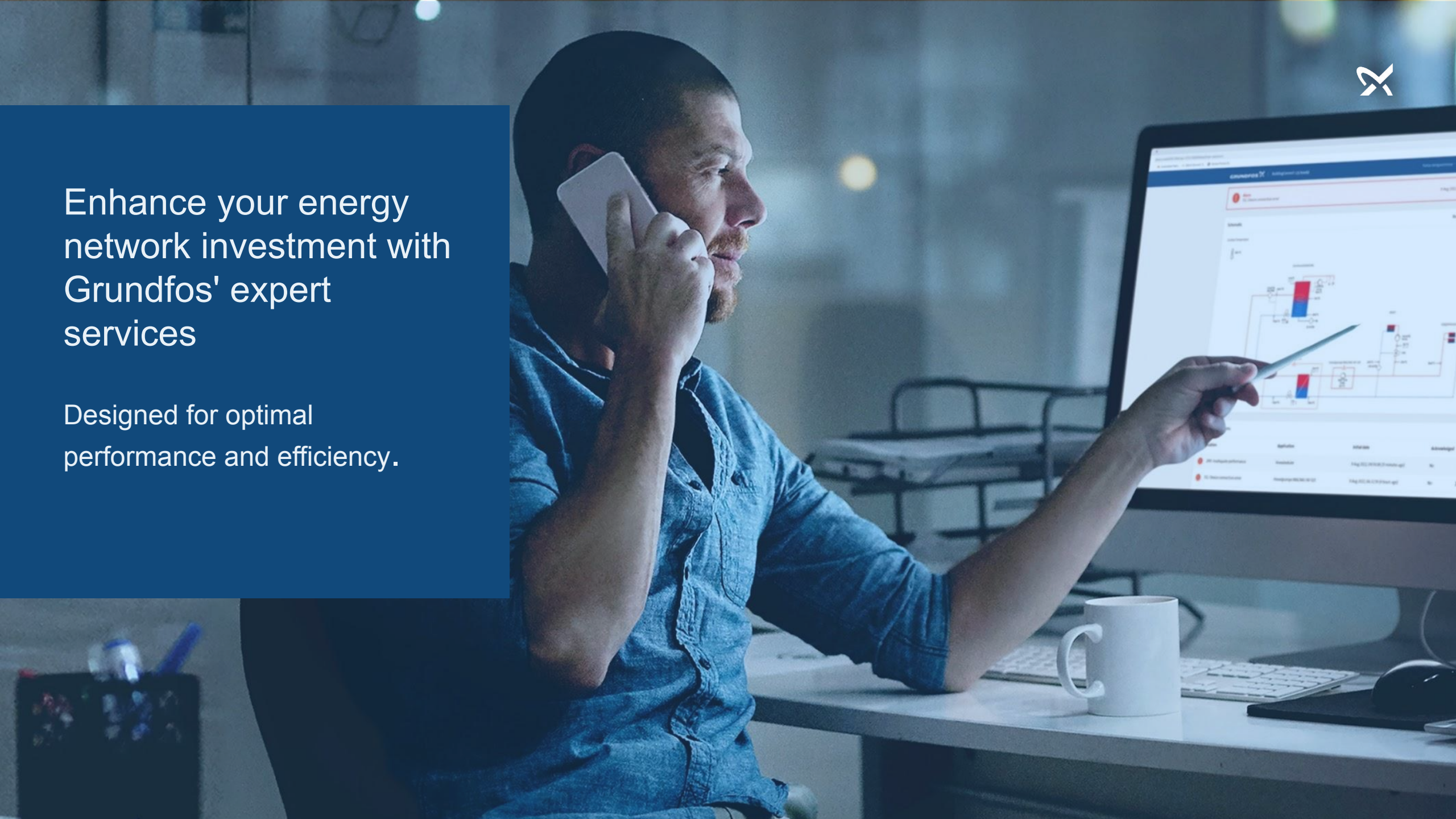
Transform your energy systems with innovative solutions designed for optimal performance. Our expertise in enhancing existing grids and pioneering new technologies ensures improved efficiency and significant savings, aligning with global energy transition goals.



Our ambition in Grundfos is to be

Global creators
of the future systems and
solutions for energy-efficient
commercial buildings

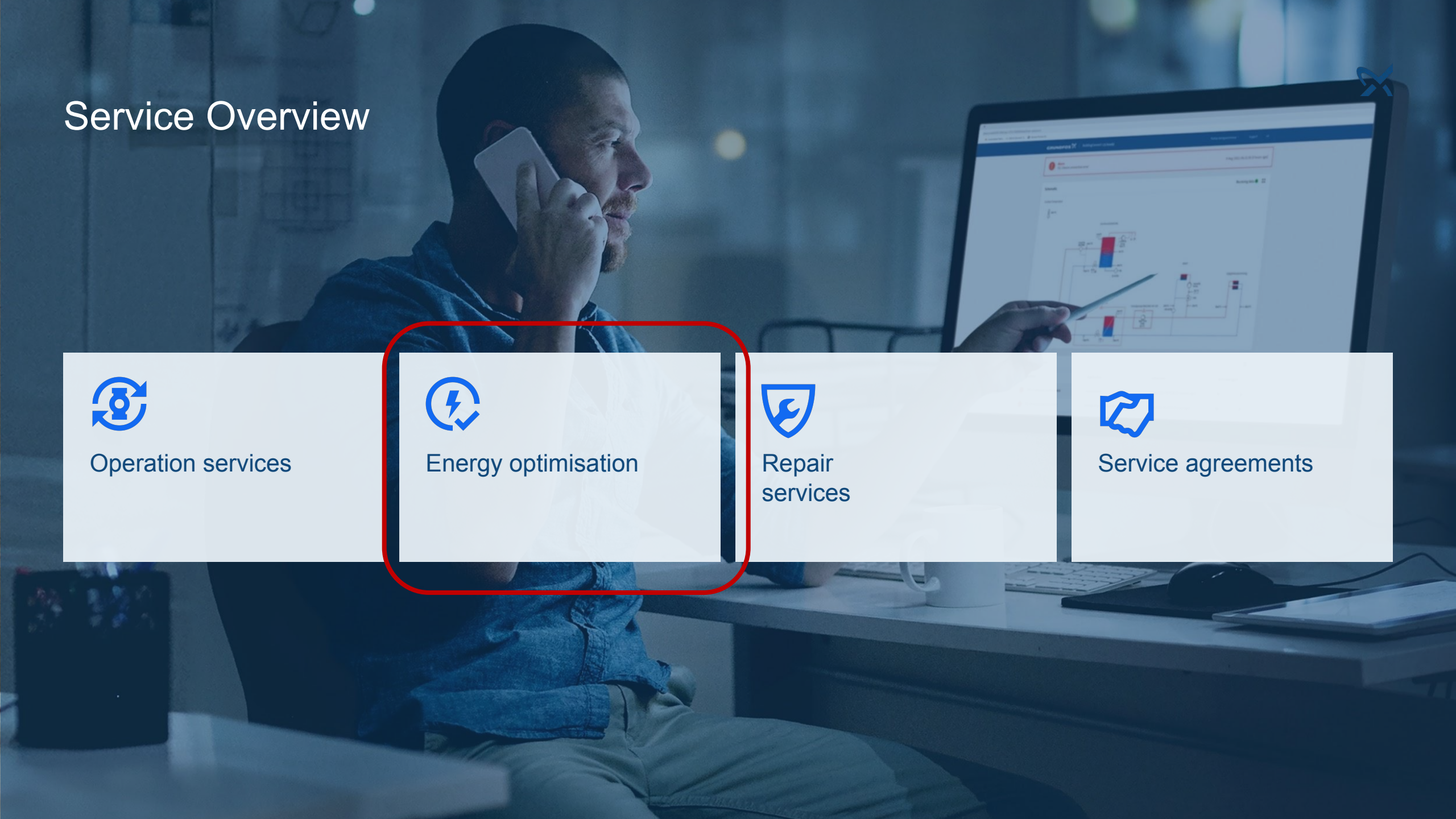
If everyone switched to high-efficiency pumps, we could save 4% of the world's total electricity consumption – equivalent to the residential electricity consumption of 1 billion people



Enhance your energy network investment with Grundfos' expert services

Designed for optimal performance and efficiency.

Service Overview



Operation services

Energy optimisation

Repair services

Service agreements

Service overview

Operation Services

We cover the entire scope of operations

Commissioning

Inspection

Installation

Laser alignment

Thermal scan

Vibration measurement

Energy Optimization

We offer detailed analysis of your energy network

Energy Audit

Optimized system performance

Increased energy efficiency

Reduced costs & emissions

Energy Check

Reduced energy consumption

Overview of expenses and savings

Up-to-standard design of circulators and pump motors

Repair Services

We keep your system up and running

Onsite & workshop repair

Replacement

Spare parts

Service Agreements

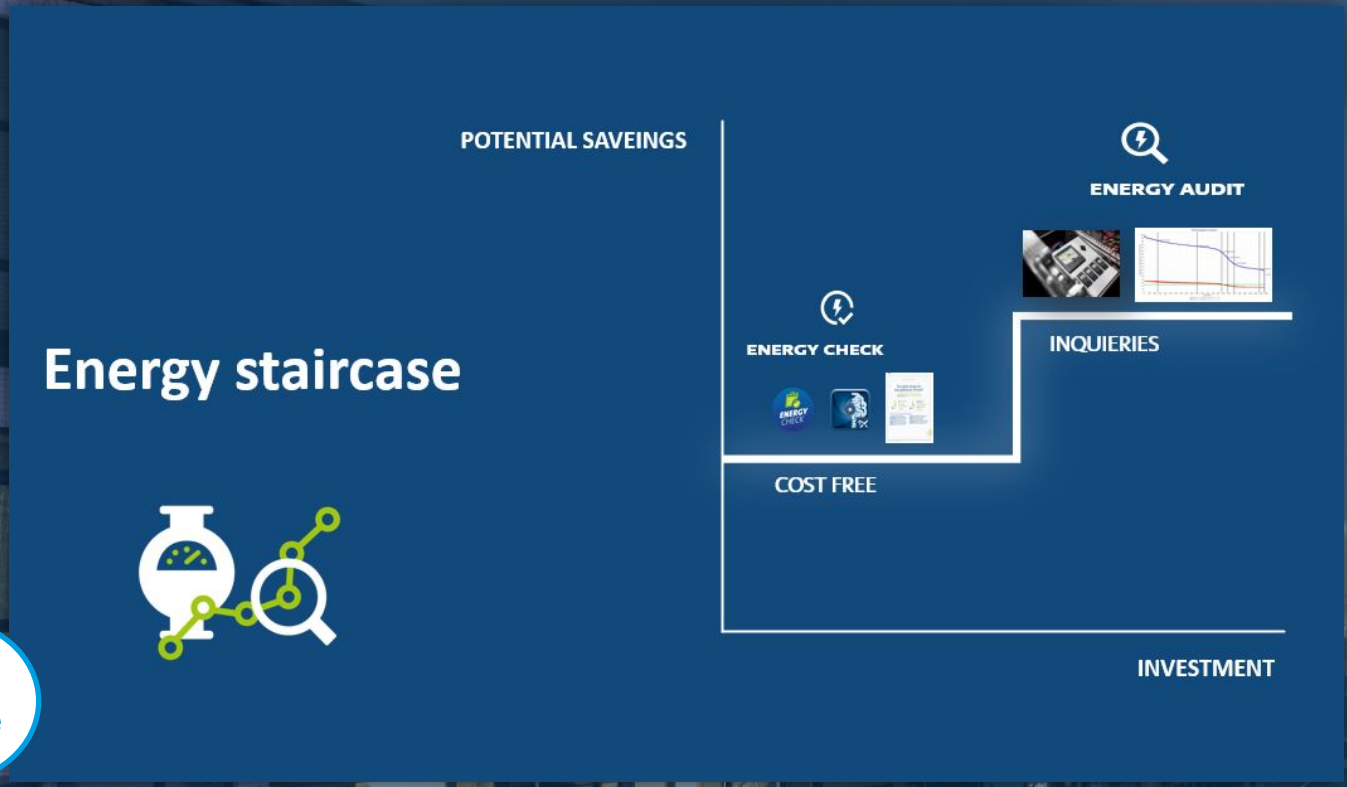
We have tailored solutions

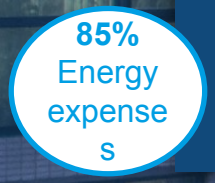
Standard service agreement

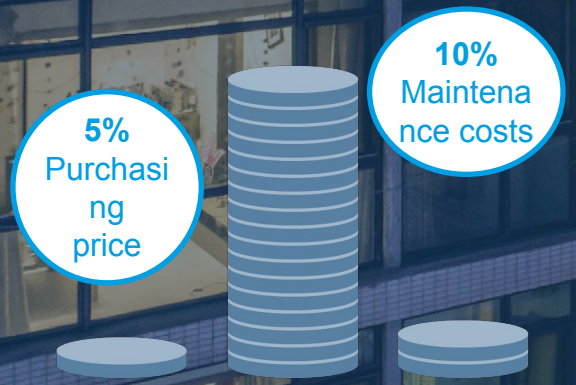
Customized Service Agreement

Grundfos Energy Earning

What does energy optimisation mean to Grundfos?







Energy Audit

Detailed analysis of your current energy network.

Offers recommendations to realize future energy savings and enhanced performance.

Energy Check

Extensive 6-step process to check your current energy network's inefficiencies.

Enables significant energy reductions and savings.

Energy Audit

Our diagnostic tool that collects data on your energy system and identifies any excessive energy use – helping optimize your system.

How it works:

- A Grundfos specialist measures and analyses your system's countable data, in the form of process flow and energy consumption; analogue data such as system temperature and water level; and event rates, including start/stop of the pump, as well as the open/closure of valves.
- Evaluates your system efficiency based on the system data.
- Recommended potential adjustments to improve system efficiency and performance.

Benefits:

01 Optimized system performance based on extensive data.

02 Increased energy efficiency, helping reduce overall costs

03 Significantly reduced emissions.

Energy Check

A simple but detailed analysis of your current pumping system that will help identify potentially unrealised cost savings and pump efficiencies.

How it works:

- Assessment of your current system by examining your pumps' type, age and measurements, as well as system applications, process flows and other relevant information.
- Analysis of your performance data and installed pumps.
- Recommendations for system optimisation based on analysis data.
- Extensive Energy Check of your entire system and select parts, before we create a report on potential energy savings.
- If you decide to upgrade or replace your pumps, we can advise you on the correct solutions based on your system specifications.
- Post-purchase follow-up to ensure optimal system performance

Benefits:

01 Reduced energy consumption, thereby improving your environmental profile.

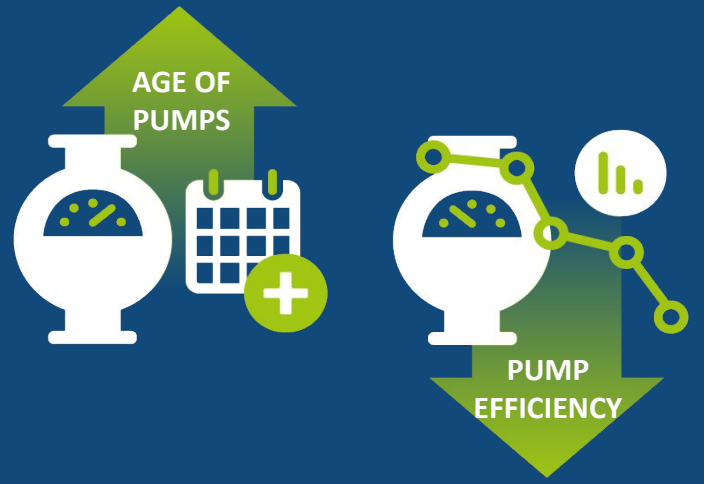
02 Comprehensive overview of your current expenses and potential savings

03 Up-to-standard design of your energy using products on circulators and pump motors.

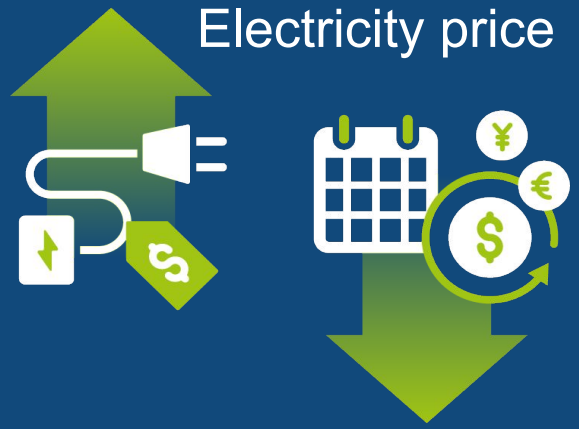
How to identify the pumps that offer the greatest energy savings

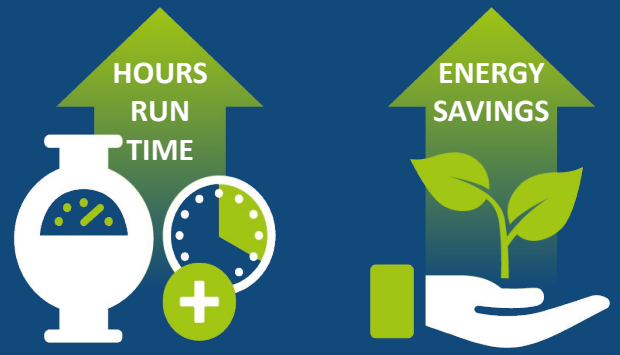
There are four categories that if applied to any pump could help determine the pumps ability to offer high energy savings and/or low pay-back time:

Motor size



Electricity price





Outcome with EO in District Heating Plant POLAND case

TIME OF ROI

2,78 years

REPLACED PUMPS (with potential on energy saveings)

42

FREE CAPACITY RELEASED UP TO

208 885 kWh

CO2 EMISSIONS REDUCED BY

148,10 tonnes

CUSTOMER PAIN

- Mixed of manufactures of pumps in their assets
- No one before was responsible for this subject –optimisation- in this company
- Average age of existing pumps 20+ years old
- Dedicated budget only for Energy modernization
- Reduction of city development plans and there fore reducing pipes and length of heating network

Outcome with EO in District Heating Plant POLAND case

PAYBACK TIME (ROI)

2,0 years

PUMPS REPLACED

96

ENERGY SAVINGS

389,096 kWh

CO2 EMISSIONS REDUCED BY

275,9 tonnes

CUSTOMER PAIN

- Large number of pumps on site
- Average age of existing pumps 15-25 years old
- New energy price from heat supplier
- Pressure for reducing energy/cost consumption
- Verifying how many at the end pumps will be used and how many will be disassembled
- Replacement needed to be sized taking into account that in housing blocks only Canned rotor pumps (quitter) would be accepted instead of Inline pumps

TPE3

Leading the Way in Energy Efficiency

GRUNDFOS

Possibility in every drop

The new TPE3

TPE3 intelligence

Seamless connectivity

One uniform TPE3 range up to 22 kW

Easy commissioning

Best-in-class efficiency

Sustainability – EPDs
(Environmental Product Declaration)

One uniform range

Three solutions into one TPE3 range

Past

TPE3

TPE2000

TPE2000

New TPE3

TPE3 Small (existing)

TPE3 Medium

TPE3 Large

One uniform range

- Full range of twin pumps
- All in versions with no sensor – TPE2 – both single and twin
  - New TPE3 release

TPE3
Small

TPE3
Medium

TPE3
Large

Phase in/out

Going forward we have only one range – the new TPE3 and TPE2

Phase out

TPE series 2000/1000, 3-22 kW

NEW TPE3

TPE3/TPE2, 3-22 kW

The new TPE3 range

Providing one uniform TPE3/TPE2 range up to 22 kW/DN 200

New TPE3

TPE3 Small (existing)

TPE3 Medium (new)

TPE3 Large (new)

TPE X-large

Let’s stay in touch!

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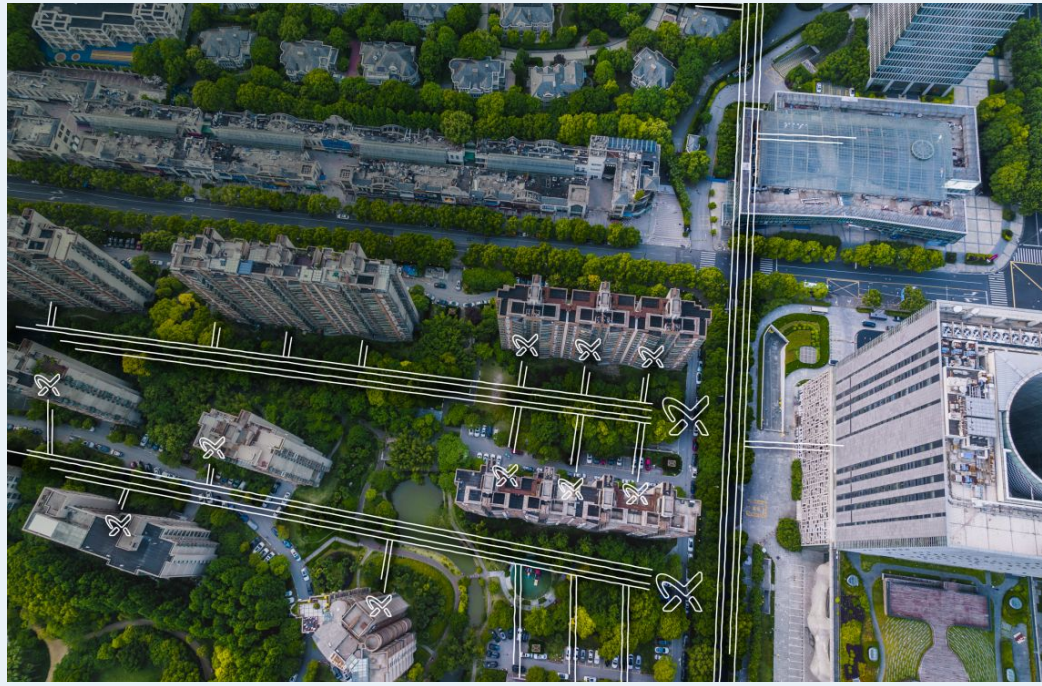

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Thank you for your attention

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