

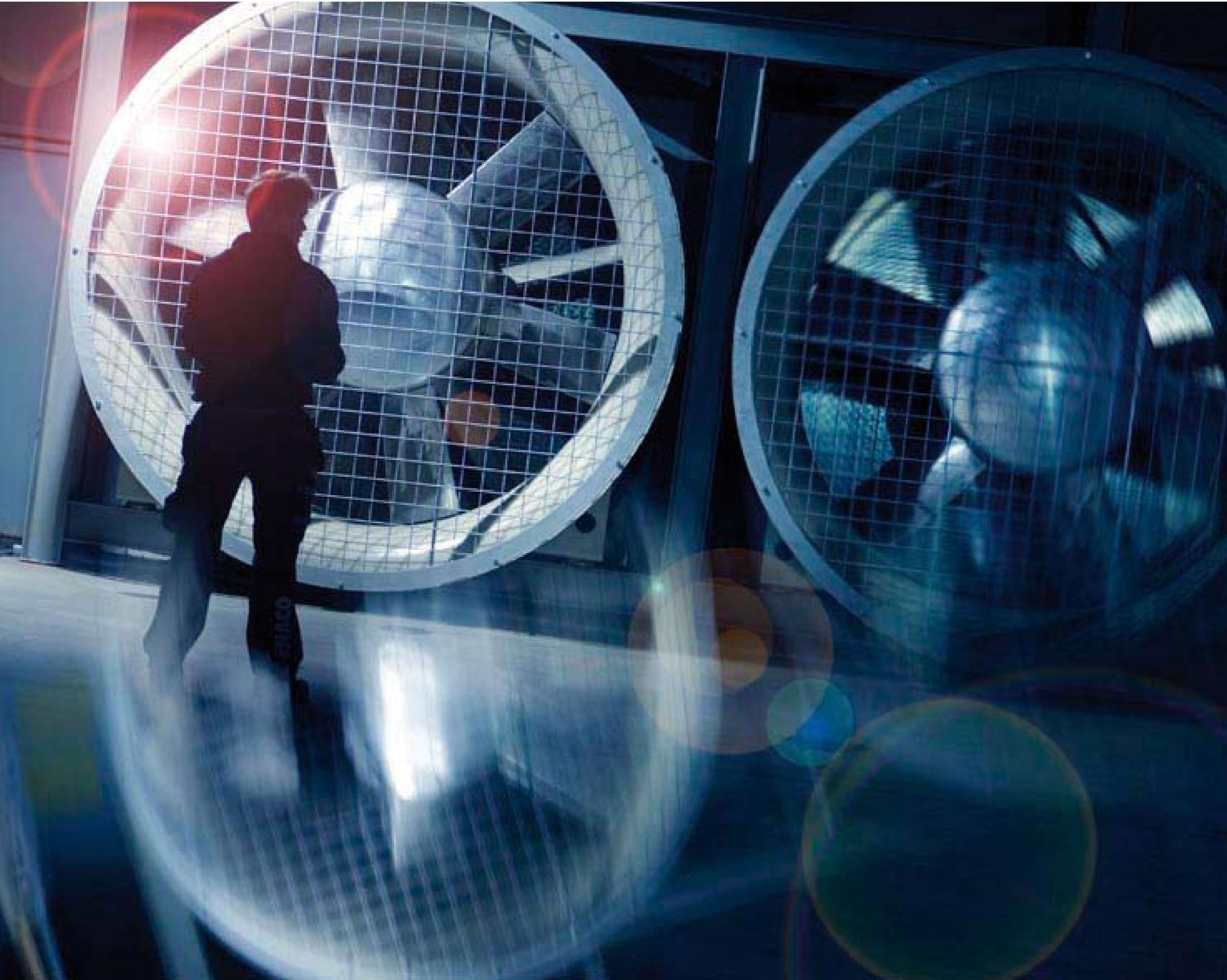


**The secret behind  
a sustainable  
data environment  
is the ability to see  
beyond the horizon**



MAKE DATACENTERS WORK

**ENACO**



## Who should you talk to about **tomorrow's datacenters?**

THE BIG CHALLENGE TODAY is that ever-bigger datacenters with more and more servers are squeezed into ever-smaller areas. Mega datacenters with tens of thousands of servers are being created in colossal facilities to handle the massive increase of information.

In parallel, efforts are forging ahead to develop greener materials and processes, new and advanced systems for water and air-cooling as well as alternative and efficient energy solutions. All in order to slash costs and reduce environmental impact.

Our challenge is to see where developments are going and to help our customers to develop a secure and energy efficient physical IT environment that is also properly dimensioned.

Our people have both the deep business in-sight and the ability to look ahead and see what is happening in a complex and constantly changing world. They are strategic partners for IT chiefs and management groups wanting to create a sustainable IT strategy for the future.



# A green operating economy can be a company's best deal

You see that IT costs are rising. But where are they really heading? Often the cost for operating and cooling an IT facility are as high as running the servers and computers. Plus, there is a decline in the efficiency of older servers, cooling equipment and UPS systems, which means they consume unnecessary amounts of energy.

## An energy efficiency plan can halve energy use

Economy and environment go hand in hand. With a plan to improve energy efficiency you can considerably reduce the energy use of the company's IT facility. Green datacenters with the latest energy efficient technologies for power and cooling can slash electricity costs by as much as 50 percent. Even simple measures that improve air flow and recycling of energy such as heating workspaces can reduce costs dramatically.

As your collaboration partner we plan together for a long-term sustainable and energy efficient data environment. We have a number of tools to help you:

## PUE audit – evaluating energy efficiency

We thoroughly review your data environment and evaluate energy efficiency in the facility. We calculate the PUE rate. PUE stands for Power Usage Effectiveness and is a measure of the energy efficiency of a facility. The PUE rate is simple to calculate and is a potential future benchmark.

The lower the PUE rate in your facility, the better the energy efficiency. A normal PUE rate today can be up to 2.0 and above. A PUE of 2.0 means that for every watt IT energy consumed, as much energy is used for cooling facilities and workspaces. Today we can build datacenters with a PUE all the way down to 1.2.

During a PUE audit you will also receive proposals for improvement measures.

## Calculate your own PUE

PUE is the relationship between total energy consumption of a facility (workspaces and cooling) and energy consumption for the actual IT equipment (servers etc.). This is how you calculate your own PUE rate:

$$\text{PUE} = \frac{\text{total energy consumption of the facility}}{\text{energy use of IT equipment}}$$

## Environmental declaration

All buildings must have an environmental declaration. This includes data facilities. We help you develop a platform for your data center that can be included in the building's environmental declaration.

## A simple audit

Our aim with a simple audit is to review your facility based on the company's accessibility needs. You will receive an assessment detailing which areas are most at risk of a potential breakdown. We also provide you a report suggesting improvement areas.

## Full-scale audit

We offer a full audit for advanced data environments, approved for the annual report. It comprises an in-depth security review where we probe deeply as part of our total risk and vulnerability analysis. The check even encompasses current contracts and meeting standards. Among other things, the proposal for improvements includes long-term security strategy, analysis of future growth needs and a plan for optimal use of existing workplaces with new energy efficient solutions.

## Risk and vulnerability analysis

A full audit also encompasses a risk and vulnerability analysis, although it can be implemented separately. The analysis is designed to find weaknesses in IT systems and evaluate the risks of disruption. The studies can be performed at all levels of a company's IT environment or for certain critical parts.

"It feels really positive being able to help our clients with strategically important choices when it comes to physical IT environments. That's when good tools are critical."

Magnus Angermund, Regional manager, Enaco Stockholm



# Enaco delivers ready and secure computing environments

As a one-stop-shop supplier, we take responsibility for all steps from prospecting to turnkey data center and ongoing service. But our responsibility starts earlier. Every project begins with us partnering with our client to map and define their needs. Every first step encompasses a thorough situation analysis and clear requirement specifications as well as the design of the facility.

"No other part of a company is as exposed and sensitive as the IT environment"  
Dick Ternander, Regional manager, Enaco Gothenburg

## Computer and server halls with high security and sustainability standards

Enaco creates and upgrades secure and advanced datacenters, server rooms and other types of communication rooms. This applies to both the physical environment with adequate space with perimeter and interior electricity supply, climate, as well as security and communications. As a one-stop partner, we are used to handling advanced constructions involving a broad spectrum of skills. With short delivery times and critical deadlines.

We know the IT environment is extremely critical to the business success of our customers. This means we often implement new constructions and upgrades of supply systems without hindering ongoing operations.

Our ambition is to future proof your investment. That is why we see beyond the tendered solution to also details costs that could emerge several years ahead.

## Complete power distribution solutions

Electricity supply is critical to a business in several ways. Power cuts and failures from the electricity net rank some of the most common reasons for operational disruptions. Also, energy use is a major part of IT costs. Enaco supplies various solutions depending on the availability needs required by a company.

Enaco offers complete installations and service within power distribution for professional power facilities such as signal boxes, backup power and UPS systems. We have been able to double capacity for many of our customers by swapping supply systems for cooling and power for new energy efficient technology. Without interfering with normal operations.

We also deliver supply systems for use in other critical environments such as underground rail systems, hospitals and the like.

Because disruptions can cause a disaster, the demands on availability are often extremely high. At the same time you must meet the growing dependence on the Internet and ever-faster developments.

That is why it is essential to dimension the IT environment correctly to meet future needs while at the same time working to ensure there are no weaknesses or risks in the system.





Enaco delivers new efficient cooling technologies that cope with the high heat loads of modern datacenters, where 10kW/rack is not unusual.

### Quality assured air conditioning

Computer equipment requires a stable temperature and humidity without major variations. In modern data centers today, the heat load can be very high, where 10 kW / rack is not unusual. Managing extreme heat loads requires a completely new approach to cooling the IT facility. It also demands extremely advanced calculations and analysis for us to ensure that redundancy and reliability is maintained. Proactive service and continuous monitoring of operations is recommended.

Enaco deliver solutions for both process cooling and air conditioning. We provide various technologies for cooling facilities or dissipating heat at the source, to provide heating for rooms, for example. We are also looking into ways to capture heat and recycle it back to power companies.

### Communication solutions with high availability

Enaco design and deliver complete communication solutions. In today's world it is not enough that technology just works. It must be scalable and built to handle rapid technological development. It must also meet both today's networking standards as well as those being discussed for the future.

Enaco offers comprehensive solutions for LAN, SAN, WAN and other types of communication services, including software and hardware security solutions as well as switches, routers and firewalls.

### Security systems

A key strategic decision is what level of protection you want for your IT system. We evaluate the company's needs and preferences and determine the level of protection for your data center. Then we'll provide suggestions on security solutions that match your needs.

Enaco deliver and install every imaginable safety and security measure currently available on the market. Our solutions encompass overall protection as well as different kinds of fire and gas protection, protection against water leaks, interception, interference, intrusion, and reliable alarms and monitoring systems. For us, a good security solution also includes redundant cooling and supply systems and preventive maintenance, emergency services and alerted operation monitoring.

Enaco work according to ISO 9001 and have all the accreditations, permits and quality approvals required to work with all existing cooling and climate systems and all levels of electrical installations.





## Our service offering with the availability guarantee

Availability demands vary from one industry to another. How does it look in your sector? And how is your business-critical computing environment? Does it demand 99.999 or maybe 100 percent uptime. We are committed to ensure accessibility in the agreed level under the Service Level Agreement (SLA) we sign with you. In the first instance, the guarantee encompasses the centers designed and installed by Enaco.

## A complete service

Enaco offers a full range of service solutions. Because all plants are unique, we tailor each service agreement to match the client company's specific needs.

### Operating Liability with Nonstop Guarantee

This is our most comprehensive service commitment. We take total responsibility for your entire physical IT environment and ensure that the cooling and power supply never stops working. The backup system takes over if an incident occurs. And if needed, a technician from Enaco can be constantly available in the facility.

### Preventive service

We go through all the plant parts and determine the service level and frequency needs. During the regular visits, we replace filters, drive belts, oil, and so on and schedule test drives and facility evaluation. After each service, the service technician compiles a report that will provide you information about any errors or omissions and suggestions for appropriate action.

### Emergency service

Enaco offers maintenance support 24/7/365 with as little as a one-hour response time, depending on customer needs and facility location.



### Special Assignments

Enaco carries out various special assignments such as scheduled test runs of backup power, EMP protection, professional cleaning of the computer/ server rooms, thermography of electrical systems and installing new servers, for example.

### Operations monitoring with emergency alarm

This service remotely monitors your facility. In the event of a malfunction, an alarm is signaled to Enaco's on-call personnel detailing what occurred and arranging an emergency service. Either the emergency visit occurs every time an alarm goes off or at certain critical incidents.





# Knowing more

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## **Industry leading technical expertise**

Enaco is acclaimed for having the most highly skilled technicians in the market with a unique holistic approach to helping out with your IT environment. This means that they not only look at individual parts of a datacenter but also assume responsibility for all aspects of a facility. Our task is to eliminate risks in your datacenter so that every incident is dealt with directly when it occurs.

## **More than 30 years uptime**

Enaco's mission is to create long-term secure and energy efficient strategies for the physical IT environments of our clients. The company was launched in 1977 and our focus has evolved from pure construction services to encompass consulting, planning, design, implementation and maintenance of advanced IT environments such as datacenters and other types of equipment rooms.

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