e-shelter

DATACENTER ZURICH
Well positioned for security

We design, build and operate data centers with all our energy and with dedication.

Contents

Being aware of the risks today

The challenges for IT are continuously changing through new technical developments and the new possibilities which are offered by the communications and network infrastructure – and therefore the requirements and goals of your organisation. To be able to achieve these goals, not only are financial means required, but also adequate planning to be well positioned for the future. That is why recognising, evaluating and minimizing risks is vital.

We can offer you the possibility of ensuring that your IT systems are continuously available in an optimum environment – whether for short term projects or for a scheme that will be implemented in a few years' time. This brochure shows the possibilities and advantages of outsourcing IT and network systems to an external data center, whilst retaining full control of your IT – we simply provide the best possible environment.

The first e-shelter data center in Switzerland is based in Rümlang, near Zurich. It has been opened in June 2011 and offers the latest standards in availability and energy efficiency. Further e-shelter locations are located in Berlin, Bonn, Frankfurt am Main, Hamburg, Munich, Rüsselsheim and Vienna.

Built on solid ground

The free-standing building that is situated on e-shelter's very own plot is built and configured for the sole use as a data center. The site was selected on the basis of a comprehensive risk analysis in order to satisfy the demanding requirements surrounding the security and availability of the infrastructure. In this context we paid special attention to the provision of power, connection to the data networks as well as protection against environmental risks.

The building which is composed of two building parts contains altogether a total floor area of 26,000 sqm. In the first building part with a total ground floor area of 16,000 sqm, the data center floor space amounts to approx. 7,000 sqm. The building received the LEED™ Platinum pre-certification by the US Green Building Council.

When planning the e-shelter data centers we draw from 15 years experience in the field of managing data centers:

- The planning by our in-house planning department is based on the experience and know-how we have gained from the daily operation of over 90,000 sqm data center space in the e-shelter portfolio
- The buildings are planned and built to use only as data centers
- We use proven technologies to enhance our levels of energy efficiency and develop these ourselves in cooperation with the manufacturers
- The planning follows the principle of attaining the right balance between availability and energy and cost efficiency
- The basic concept of building is flexible to be able to respond to the requirements of changing future circumstances and to be able to guarantee scalability
- All external and internal installations are completed with high quality materials in accordance with industry standards

External view of the building ▶

Security in the best of hands

The security of the buildings and systems is one of the key risks that need to be managed properly. For this reason, we do not entrust this task with anyone but our own security personnel. e-shelter own security officers monitor the security compound around the clock – the perimeter security, access control, intruder detection and video surveillance are all controlled on-site in a control room featuring a central security management system, 24 hours a day, 7 days a week.

Overview of the security concept:

- 24/7 security and service control centers (Security Operations Center – SOC and Service Control Center – SCC) on-site
- Security by e-shelter's security staff
- Access control via non-contact chip and PIN or biometrics signature
- Closed circuit video surveillance of all doors and access points with automatic intruder alarm
- Secured perimeter zones with electronically monitored security fencing system incorporating anti-climb and anti-tunnelling protection
- Vehicular access through barrier system incorporating gates and hydraulically retractable safety bollards to block unauthorized cars and HGVs
- Wide ranging intruder protection sensors inside and outside the building
- Additional security available for rental units with biometric locks

Systems that you can count on

The technical infrastructure, particularly the power supply, is the heart of every data center.
e-shelter has developed and implemented a comprehensive concept to ensure the highest degree
of availability of the power supply facilities.

POWER SUPPLY

The site is equipped with independent redundant power input at 30 MVA from two independent
substations. The network connection on both substations is made with dedicated wire on
a 16 kV level, used solely by e-shelter.

The power supply for the tenants' IT systems is ensured by an active A- and B-power supply from the
substations to the server racks. Maximum reliability is guaranteed by providing A- and B-UPS-systems
in 2(n+1) configuration. Both sides can therefore assume 100 percent of the load, independent of each
other. All the critical building infrastructure systems are also based on UPS.

In addition, there are emergency power systems available with diesel generators to bridge any
long-term power failures, which are designed in n+2 and are able to take over the data center's
entire supply. The diesel provision is designed for 72 hour autonomous operation.

Overall, the e-shelter power supply system meets all requirements of high availability:

• Two independent feeds on the medium voltage level 16 kV
• Two separate UPS systems (A- and B-supply)
• Redundant emergency power system with diesel generators

CARRIER CONNECTION

The e-shelter data center is connected by more than 13 carriers from several, redundant feeds. It has
two Carrier Meet Me Rooms (CMMR), from which you can use the redundant services of the carrier of
your choice. There is an intersection-free A- and B-duct system for fibre optic cabling on the premises
and in the building. Cross connects from the carrier rooms to your equipment can be realized in
accordance with your requirements via dedicated, redundant designed pipelines. Internet connections
from 1 up to 10 Gbit/s can be provided as an additional service.

FIRE PROTECTION AND FIRE EXTINGUISHING SYSTEMS

The constructional physical fire protection, fire detection and fire extinguishing systems are designed for the greatest level of safety. For the interior configuration of the rental units, special non-combustible and/or fire-resistant materials are used only. The individual data center areas are divided into separate fire safety zones.

Comprehensive fire protection and fighting systems are installed in each tenant zone.

Early smoke detection systems (smoke extraction systems), which are integrated into the fire alarm system, guarantee the earliest possible detection even before fire and smoke fumes or fire develop. The fire fighting system is based on an argon gas extinguishing system.
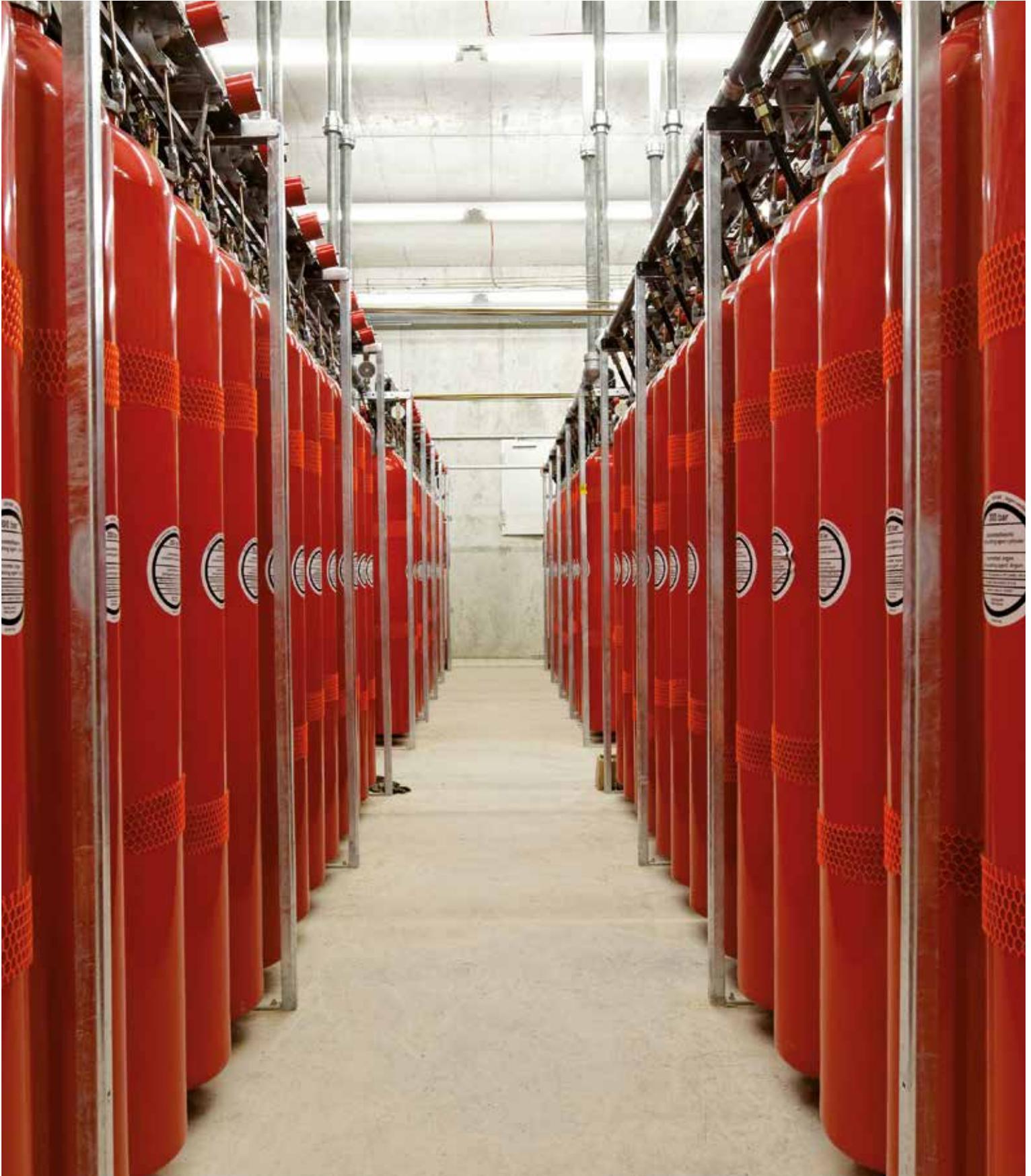
The building fire zones are configured to fire resistance class F 90, and all technical hardware locations feature:

- F 90 fire-fighting sections
- Fire protection walls to fire resistance class F 90
- Monitoring with automatic digital fire alarm system

CLIMATE CONTROL AND AIR CONDITIONING

Increasing energy costs and customer demand for high energy efficiency of the cooling and climate control infrastructure are the reasons why the optimization of these elements has become increasingly important – especially for facilities with a high level of availability. This is why e-shelter has developed new systems to save energy in the cooling systems. The programming of these systems are coordinated in-house to ensure high availability and optimal performance.

- Utilization of adaptive reciprocating chillers with superior control as "Cooling Manager"
- Innovative chilled water distribution and transport systems such as stratified storage tanks and special hydraulic points, pump management systems and automatically adjusted hydraulics
- Free cooling with integrated EC vans and own-programmed, weather-dependent energy management systems
- Peripheral ventilation and de-ventilation systems with energy-optimized operating points (rotation speed control, humidity-dependent control etc.)
- Peripheral humidifying and de-humidifying systems with low energy expenditure managing the humidity of IT areas
- Adiabatic support of cooling and air conditioning (humidification and condensation)
- Heat recovery for heating (pre-heating) the emergency standby power system, use of rainwater and chemical-free hot-water treatment of all air-conditioning units
- Own programming and visualisation of building management systems and electrical infrastructure to determine the detailed consumption data and the targeted energy management

A solution for every requirement

Your requirements are the most important aspect of our service offering. We offer space that ranges from commercial property to completely configured, high availability data center space as well as all the services for planning, design, operation and security. You choose, we deliver. Whether you choose a building shell which you configure yourself, or which we configure according to your brief, or you decide on a fully configured suite with pre-installed racks: we will ensure the space is available to you on schedule and at consistently high standard of quality.

Overview of main e-shelter's product offerings:

Fully fitted:	e-rack™ e-power-rack	Separate space, Server and network cabinet including infrastructure
	e-cage™	Separate lockable space from 20 sqm
	e-suite	Separate locked room with a size from 300 sqm
Shell and core:	e-area™	Provision of constructed shell and core space from 1,000 sqm
Land:	e-site	Provision of land with upstream grid connection and planning

e-rack™/e-power-rack
Lockable 19" standard server and network cabinet, 800 x 1,200 mm, 47 height units, including redundant power connection (A- and B-supply). Standard server power available from 2 to 6 kW per e-power-rack.

e-cage™
Lockable steel mesh security unit. The individual steel mesh units are equipped with sneak-by protection in the raised floor. Available space from 20 sqm to be built according to your individual needs and operated within a larger data center space with other e-cages™.

e-suite
Self-contained, locked and monitored space with an area from 300 sqm. Each e-suite represents a separate fire fighting section in the F 90 class. Layout, operational parameters and security features can be customized to your needs.

Good reasons for
security with e-shelter

e-shelter currently employs over 350 staff. They are drawn from an exceptionally wide range of sectors and they all have one goal: finding the best possible solution for your challenges at all times.

SUSTAINABILITY AND ENERGY EFFICIENCY

We continually strive to enhance the energy efficiency of our data centers. We gain the know-how to master these challenges from the empirical analyses of existing data centers. We familiarize ourselves with the latest technologies on the basis of a close collaboration with research institutes and industrial associations. We already use optimized and coordinated cooling technologies such as free cooling, newly developed high temperature heat pumps, adiabatic cooling and cold aisle containment systems. Exhaust heat is used to heat the adjacent buildings.

EXPERIENCE AND SUSTAINABILITY

With 15 years of experience operating data centers that run over approx. 90,000 sqm of space, our engineers have considerable experience in the development of new, and always more efficient, systems. You will benefit from the know-how and experience of our specialists: we plan, build and operate data centers using all of our energy and dedication.

e-shelter is certified according to DIN ISO/IEC 27001, the products are meeting the outsourcing requirements of the circular letter 08/7 of Swiss Financial Market Supervisory Authority FINMA.

Additional services at the Datacenter Zurich:

To ensure the on-time and cost-effective configuration of your rental units, and that your relocation proceeds smoothly, we offer you a range of additional services at the Datacenter Zurich:

BUILDING MANAGEMENT SERVICES

- Technical operations management
- Infrastructure services (cleaning, moves etc.)

TECHNICAL SERVICES

- Maintenance and installation services ("24/7 Remote Hands and Eyes")
- Cross Connect
- 24/7 helpdesk

CONSTRUCTION OF DATA CENTER SPACE

- Consulting and analyses for development concepts
- General and execution planning
- Project management
- Construction work
- Quality control

SECURITY SERVICES

- Building security
- Customized security services

LEASING OF OFFICE SPACE

- Emergency workplaces
- Regular office space

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