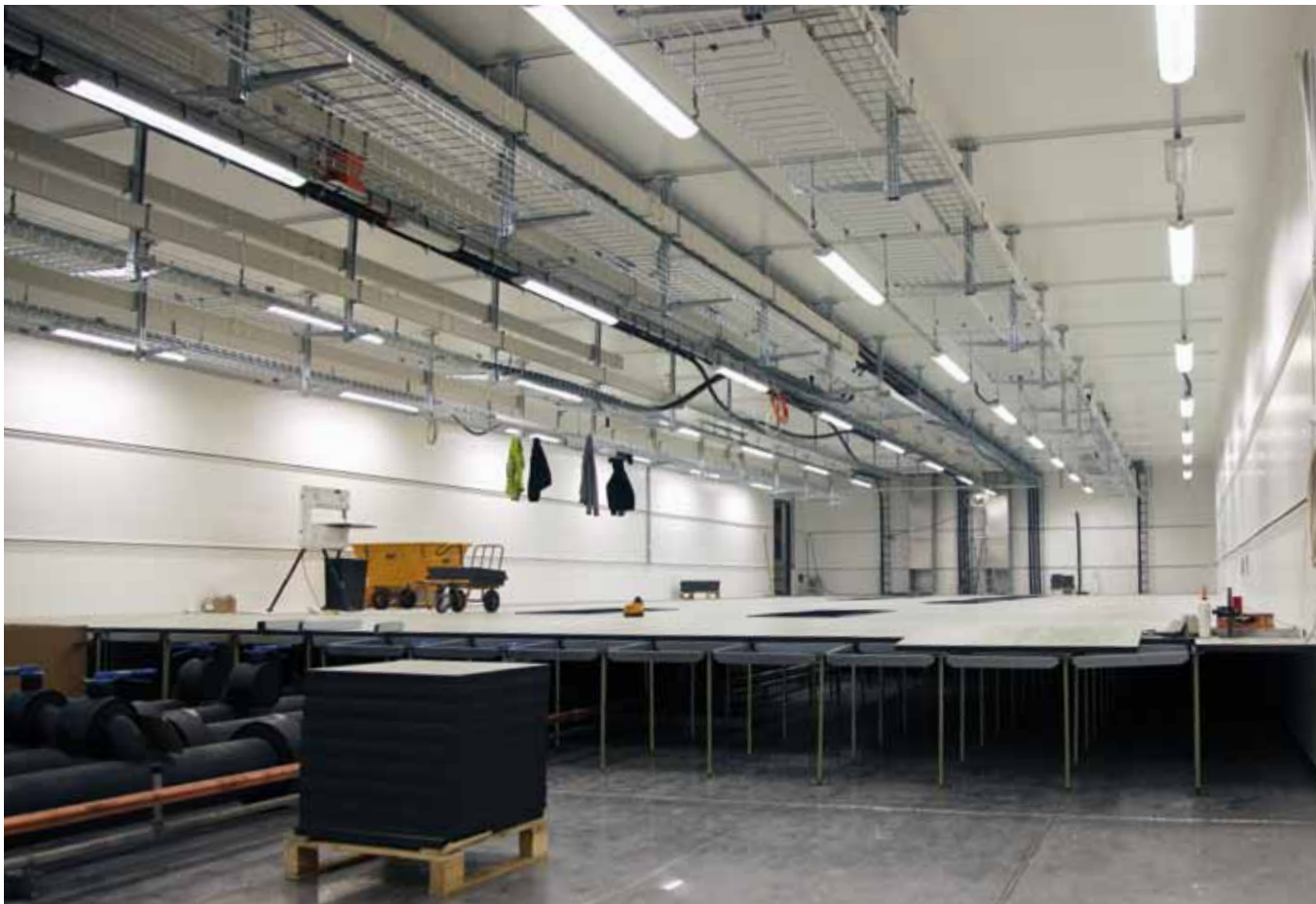


# REPORT

Sealing solutions for  
scalable data centers



IT service company Tieto transforms a former military installation deep down in the Swedish rock into a cutting-edge data center. In order to be able to expand for new customers,

more computers and additional electrical installations, Tieto has chosen to use Roxtec cable and pipe seals. The flexible sealing solutions provide spare capacity for repeated upgrades without

risking business continuity. The high quality seals also keep the data center entirely gas-tight – which is essential for optimal efficiency in security and cooling.

**Roxtec team reports on site**  
– from data center in Stockholm, Sweden

**We Seal Your World™**



*Per-Olof Centerlind, Tieto, and Henrik Gustafsson, Roxtec.*

## No limit for expansion

The new data center is designed according to the demands of both the public and private sectors. Among the customers are governmental agencies, hospitals and banks. Tieto will attract more customers through top level safety and the extensive abilities for expansion.

The rock cave of 20 000 square meters was previously a military installation. In the initial phase, Tieto develops 4 000 square meters by building several secure computer rooms. The scalable facilities include well-dimensioned power supply and air cooling systems as well as compartmentalized security zones. There will be from two and up to ten diesel generators of 1.875 MW each, and from one up and to six rooms for

cooling equipment. Just a few chimneys can be seen from outside. "This is the ideal place for a data center," says Project Manager Bengt Asplund of Tieto.

### Sealing for safety

The state-of-the art data center is a virtual pillar of society and must be kept operational at all times. It has to be protected against risks such as power outage, fire, gas, humidity, flooding and undesired changes in temperature. Therefore, diesel generators, battery backups, and environmental control systems are installed. With Roxtec cable and pipe seals, Tieto obtains certified gas-tightness and two hours fire protection (EI 120 D):

"We use Roxtec wherever we need first class protection," says Site Manager Jan Jansson.

### Easy to upgrade

There is more to nonstop operation



Project Manager Bengt Asplund, Tieto



“ We use Roxtec wherever we need first class protection

than keeping up integrity and avoiding risks. It is crucial to be able to expand while ensuring business continuity for existing customers. “Since we develop a completely scalable system, it is beneficial for us to use Roxtec seals. They make it easy to upgrade with new cables during operation,” says Bengt Asplund.

Roxtec seals are designed for upcoming needs. They are easy to open up, adapt, and re-seal. This allows for routing additional cables without disconnecting computers.

### Sustainable growth

The data center is built with future needs in mind, both regarding data storage capacity and sustainability. The air management is cleverly adapted to the Nordic climate with harsh winters and mild summers. Excess heat is recycled for warming villas in the area.

“We think and act green, but we never compromise on safety,” says Bengt Asplund. “With our redundant systems, we have prepared for expansion to the highest level of safety as Tier 4 data center.”

### Quick and adaptable

Roxtec rectangular frames and round seals are used for sealing of power cables, signal cables and pipes for cooling. Tieto representatives like Multidiameter™, the Roxtec solution for adaptability to cables and pipes of different sizes based on removable layers.

“It is easy to install Roxtec. When you need to work fast, it is practical to have one selected solution that keeps you prepared for any dimension or make of cable or pipe.”

### Fortress of flexibility

The underground facility gives an overall impression of being an impregnable fortress. It is completely closed with layers of inner walls protecting against fire, gas and water. The power supply is, however, prepared for maximum output – and for feeding additional equipment. Fortunately, the Roxtec seals function as a magic key for further expansion.

*Roxtec seals contribute to better space management and efficient cooling.*



### BENEFITS

- Gas-tight
- Fire-proof
- Watertight
- Easy to upgrade
- Built-in spare capacity



## Facts

<b>Project type</b>	Construction of scalable data center
<b>Involved companies</b>	Tieto (owner) – design, engineering, construction, installation Pefo Bygg – design, engineering, construction, installation Enaco – design, engineering, construction, installation Fortifikationsverket – cave design and security
<b>Applications</b>	Foundation cable and pipe inlets and cable and pipe penetrations between rooms and floors
<b>Requirements</b>	Gas-tight Fire-proof according to EI 120 D Watertight Prepared for EMP (electro-magnetic pulse)
<b>Roxtec products</b>	Roxtec S frames Roxtec wedges Roxtec R and RS seals Roxtec adaptable sealing modules
<b>Reasons for choosing Roxtec</b>	High safety demands Quick and easy to install Built-in spare capacity Flexible for upgrades Multidiameter™ by Roxtec

### Roxtec construction and telecom references:

AT&T/Cingular, Berlin Hauptbahnhof, Bharti, China Mobile, Clinical Center Jena, Delta, Dow Chemical, Eltek, Ericsson, Huawei, Motorola, Nokia Siemens Networks, Pfizer, Reliance, Royal Alex Hospital, Sprint Nextel, ST Microelectronics, Telefónica, Vodafone, Winnipeg Int. Airport.



Roxtec International AB  
Box 540, SE-371 23 Karlskrona, SWEDEN  
PHONE +46 455 36 67 00, FAX +46 455 820 12  
EMAIL info@roxtec.com, www.roxtec.com