



**altron**  
your datacenter partner

# Fresh air for your business

## We understand your needs and different points of view

### Manager's View

It is a summary of all views plus risk analysis and TCO analysis while the priority is the best Costs/Performance ratio

### Technical View

Topology concept, functionality, availability, reliability, efficiency, performance, capacity, scalability, modularity, serviceability, operational procedures



### Economical View

Capital expenditures, operational expenditures, TCO optimisation, phasing of the build-up and investments  
The type of acquisition: Investment, operative leasing, outsourcing

### Environmental View

Ecology, recycling, environmental protection, energy saving, environmental management system, CO2 footprint reporting

# Why should you choose the ALTRON's data centre solution?

The reasons are obvious: We can thoroughly ease your preparation phase as well as the data centre realization and its operation. We bring you the "ONE-STOP SHOP" solution with remarkable high added value.

Compared to product specialized competitors we offer a complex view on data centre related questions including the complex responsibility for realized solution.

Compared to big integrators, power and cooling technologies are our core business in which we have developed our skills for over 18 years.

Compared to several top manufacturers who offer a complete product portfolio for data centres, our solutions are vendor-neutral and therefore well balanced.

We are not a seller of a restricted product portfolio or the supplier of just one trademark but the supplier of conceptual solution within the scope of our core business.

## Ecological data centres according to the concept OptiEnergy™ – GREEN IT by ALTRON

We make constant efforts to improve the data centre's efficiency in order to minimize its carbon footprint (CO<sub>2</sub> emissions). This is why we developed a solution which includes:

- ▶ A highly efficient NCPI concept as concerns its low consumption of energy
- ▶ The latest products from renowned world manufacturers
- ▶ Our own advanced products for control and monitoring of technologies

- ▶ Implementation of appropriate operational processes and rules
- ▶ Periodical measurement of operational and environmental parameters
- ▶ Permanent evaluation of user parameters, scanning and monitoring of trends

One cycle of the data centre lifetime or the phases of a never-ending story: Design ▶ Installation ▶ Operation ▶ Audit ▶ The need for upgrade ▶ Design ▶ ...



## OptiStructure™

OptiStructure™ means the optimized solution of the data centre's critical physical infrastructure (NCPI) which meets the internationally used classification TIER 1 to TIER 4.

The combination of cutting-edge technologies, our complex experience and standardized approach mean and make a balanced, reliable and long-term profitable solution.

### What are then the OptiStructure™ attributes?

- ▶ It is technologically balanced
- ▶ It is reliable
- ▶ It respects its scalability limits
- ▶ It is predictable
- ▶ It can be serviced easily
- ▶ It is user-friendly
- ▶ It meets the requirements of
  - ▶ economic parameters
  - ▶ technical parameters
  - ▶ environmental protection requirements

### The solution OptiStructure™ guarantees the optimization of the total cost of ownership (TCO)

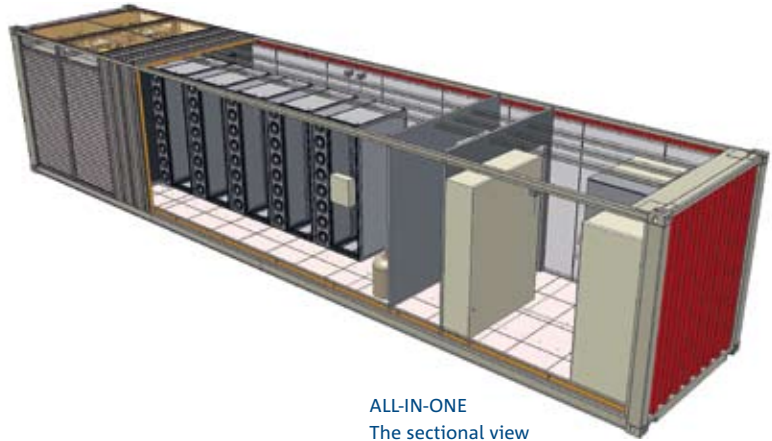
Many investors focus only the minimization of capital expenditures (CapEx) but do not consider the importance of operational aspects. This approach frequently leads to very high operational expenditures (OpEx) and to higher investments during the next project phases. The total costs of ownership are then higher than expected.

$$TCO = CapEx + OpEx$$

The data centre technological infrastructure - OptiStructure™						
Power supply syst. (EnergyCentre)	Cooling and air-conditioning	Physical infrastructure	Physical security	Fire detection and suppression	Network infrastructure	Monitoring
Generating sets	Indoor cooling units	Construction parts	Electrical security system (ESS)	Electrical fire alarm (EFA)	Metallic cabling	Monitoring of the environment
Fuel refilling systems	Chillers	Raised floor	Access control system (ACS)	Laser smoke detection	Fibre optical cabling	Data acquisition, cable paths routing
UPS	Ventilation and heat recuperation	Suspended ceiling		Fire extinguishing system (FES)	Patch panels	Servers
DC systems	Humidifiers	Rack systems	CCTV and camera systems	Fire resistant sealing	KVM switches	
Control systems	Circulation pumps	Other	Security doors	Fire resistant flap valves and caps	Measurement instruments for IT networks	Remote communication
HV switchboards	Chill reservoirs					Local monitoring
Transformer stations	Piping systems					
LV switchboards						
Cable systems						

## OptiStructure™ Mobile

OptiStructure™ Mobile is the complete solution of a mobile data centre which is built within a standardized transportation container. The power system and the air-conditioning are conceptually based on OptiPower™ and OptiCooling™. The container also includes the fire detection and suppression system, electronic security system, the access control system, CCTV camera system, monitoring and the IT network infrastructure.



ALL-IN-ONE  
The sectional view

## OptiOperation™

OptiOperation™ is a complete set of Critical Facility Management services to guarantee the optimal and reliable operation of the network critical physical infrastructure (NCPI) in mode 7x24. Our advanced technical solution guarantees the maximum availability of critical applications in all operation modes.

OptiOperation™  
OptiOperation™ PLUS

## EnergyCentre – an integrated solution to power the critical applications

EnergyCentre means the balanced combination of power supply technologies to ensure the power for your critical applications using both the public grid and the system of standby power supplies (gensets) and UPS systems, and, if applicable, also the backup direct current systems.

The solution includes the cabling and distribution systems, switchboard systems and it can also include the genset fuel refilling system and/or the transformer station.

The solution together with its control system and the technology monitoring optimizes the data centre's operational costs.

Fully redundant EnergyCentre:  
**OptiPower™ Plus 1MW až 5 MW**

Hot serviceable EnergyCentre:  
**OptiPower™ 1MW až 5 MW**

Basic EnergyCentre:  
**BasicPower™**

## OptiView™

The complex monitoring of the whole data centre critical physical infrastructure (NCPI) ensures the solution OptiView™. The system includes modular technical means in order to ensure local or remote monitoring of all technologies and corresponding operational environments. In connection with appropriate service agreements the system significantly improves the operational reliability and radically cuts down the costs related to the removal of unexpected failures.

KlimaCentre means the balanced combination of air-conditioning systems, cooling units and air-handling systems to ensure the chill production, accumulation and its effective distribution. The solution includes the coolant (fluid or gas) re-circulation system and the humidification system. The solution together with its chill production control system and the chill distribution system dynamically optimizes its operation parameters in accordance with the actual heat load.

Cooling for data centres up to 500 kW:  
**OptiCooling™ DX**

Cooling for data centres up to 1 MW:  
**OptiCooling™ CW**

Cooling for data centres over 1 MW:  
**OptiCooling™ Plus CW**

## Selected clients

CNC/Swan, Kyivstar, T-Com, Telefónica O2, T-Mobile, Vodafone, Dell, Fujitsu Siemens Computers, HP, IBM, Logica, Sun Microsystems, T-Systems, Alcatel-Nortel, Ericsson, Nokia Siemens Networks, GTS Novera, Telenor, TTC Marconi

ABN Amro, Allianz, Citibank, Erste Bank, GE Money Bank, Home-Credit, ING Group, Nadra Bank, PPF/Generali, Raiffeisen Bank, Raiffeisen Bank Aval, Swedbank, UniCredit Group, Wüstenrot

AGC Flat Glass Europe, Air Traffic Control, Czech Airlines, ČEZ Group, DHL Express, E.ON, Finning, HM Prison Stocken, Ikea, Kia Motors, ArcelorMittal, Nestlé, Procter & Gamble, Škoda Auto, US Steel, TPCA, VW, Water company of Northern England

Solutions		Services		Products									
Data centre infrastructure	Corporate data centres	Operational outsourcing (Critical Facility Management)	CFM for DataCentres	Power systems	UPS units								
	Hosting/Housing data centres		CFM for EnergyCentres		Generating sets								
	Modular mobile data centres		CFM for KlimaCentres		DC systems								
Power for critical applications	Basic EnergyCentre	Maintenance and repairs	Service programs		Batteries								
	Hot serviceable EnergyCentre		Preventive maintenance		Static transfer switches								
	Fully redundant EnergyCentre		Failure removal services		Alternative power systems								
	Power systems UPS/RUPS		Operation services		Switchboards and power distribution								
	Standby generating sets		Basic services		Transformer units								
	Fuel refilling systems	Audits	Audit of the data centre		Cable paths, bus-bars								
	Backup systems for direct current applications		Audit of the technology centre		Cooling systems and air-conditioning	Indoor cooling units (CRACs)							
	Battery systems		Audit of the technology			Indoor chillers							
	Alternative power systems		Operation audits	Outdoor chillers									
	Switchboard systems - topology		Process audits	Outdoor cooling units									
Cooling for critical applications	Cooling for data centres up to 500 kW		Data centre's Tier determination	Split systems									
	Cooling for data centres up to 1 MW		Measurement of parameters	VRV and VRF systems									
	Cooling for data centres over 1 MW	Analyses	Pumps										
	Technology cooling for EnergyCentre	Studies	Humidifiers										
	Cooling for industrial applications		Complex studies	Air-handling units									
	Indoor cooling systems		Site assessments	Measurement systems for data networks		JDSU							
	Indoor chiller systems		Economic assessments		Symmetricom								
	Outdoor chiller plants	System studies	Willtec										
	Outdoor cooling systems	Technology design studies	Racks	Patch panels									
	Coolant re-circulation systems	Technology design studies			KVM switches	Fibre optic cable systems							
Humidification control systems	Projects	Building licence documentation					Metallic cable systems						
Air-handling systems		Building realization documentation						Raised floors					
Critical Facility Management (CFM)		CFM for DataCentre Off-Site							Real status documentation	Suspended ceilings			
		CFM for DataCentre On-Site							Tender documentation		Secured data rooms and safes		
		CFM for EnergyCentre							One-step documentation			Security doors	
	CFM for KlimaCentre	Other project activities							Lampertz				
Technology and environmental monitoring	Realization	Complex deliveries											Technology removal
		Complex reconstructions											
Technology control, measurement & regulation		Installation and technology start-up	Proposal of processes and operation rules	Management of the DC									
		Complex handover			Operational directives								
Fire detection and suppression		Logistics				Relocation	Process rules, process control						
		Electronic fire alarm systems						Disaster recovery planning					
		Fire resistant sealing, caps and flap valves											
Physical security		Electronic security systems (ESS)				Technology removal							
		Access control systems (ACS)								System services			
		CCTV and camera systems											

Since 1991, ALTRON is the synonym for quality and reliability. Today, ALTRON is present in a number of Central and East European countries. At the present time there work for the ALTRON GROUP approximately 200 employees who are ready to solve your most exacting requirements. Our unique know-how is well proven in more than 150 reference installations not only in the Czech Republic, but also around Europe. Our vision is meaningful – it has a future.

