

Schuberg Philis Data Center Retrofit

Replacement of a 12-year old cooling installation within the existing Schuberg Philis data center without any downtime for the IT-systems customers.

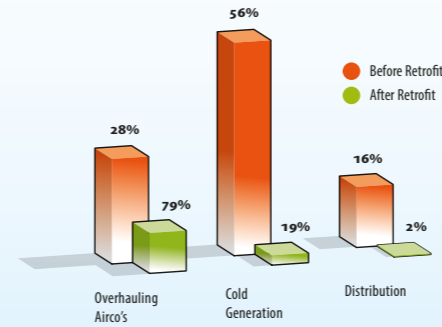
Key Figures

- Total gross facility area: 4.000 m²
- IT-area: 2.500 m², 7 data rooms
- Date of retrofit: June 2012
- Activity of organization: mission critical outsourcing
- Number of employees: 180 fte

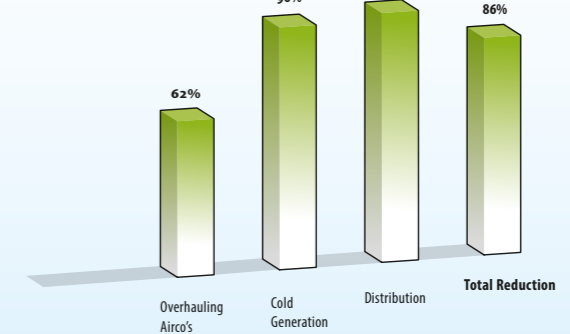
All temperatures are in Celcius (C°).

Results

Energy Usage (total is 100%)



Energy Usage Reduction (in %)

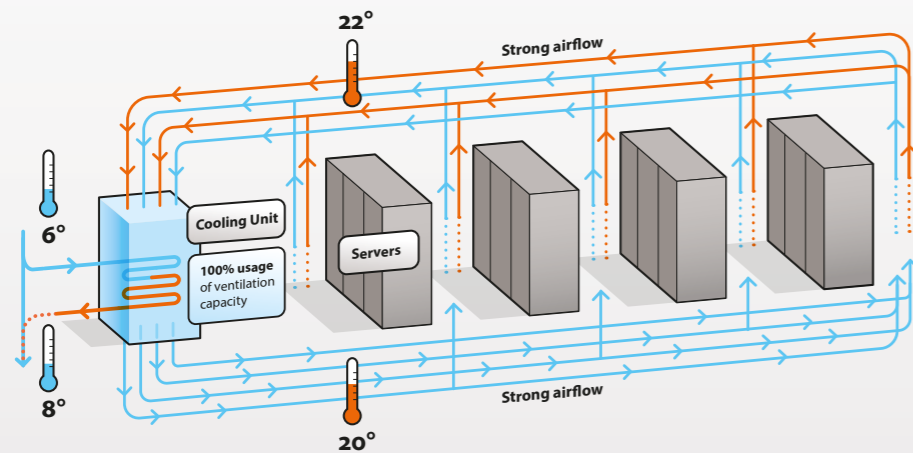


Changes

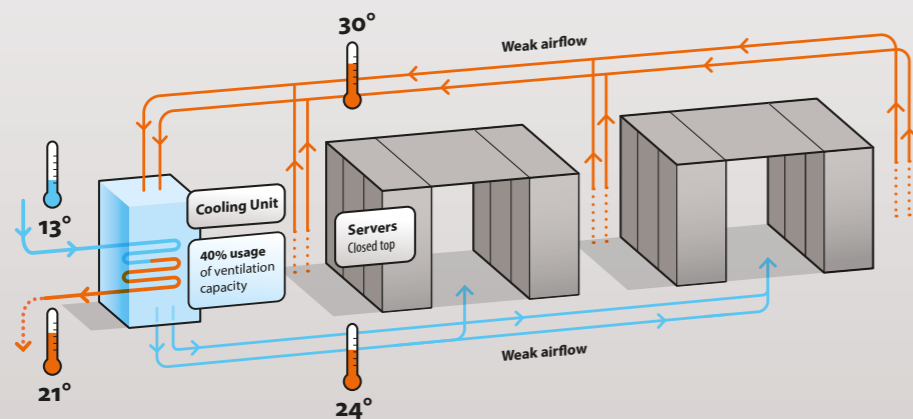
Data Room

- Optimizing energy use in the data rooms, through:**
 - Complete separation of hot & cold air flows
 - Blind plates
 - Allowing higher temperatures (from 20° to 24° C)
- Overhauling 12 year old in-room cooling units, making them more energy efficient, by:**
 - Modification from 3-valve to 2-valve system
 - Replacing the airco controller, from a return air controlling unit to an outlet air controlling unit, manageable with the BMS
 - Installation of a frequency controller for minimal ventilation

Before Retrofit

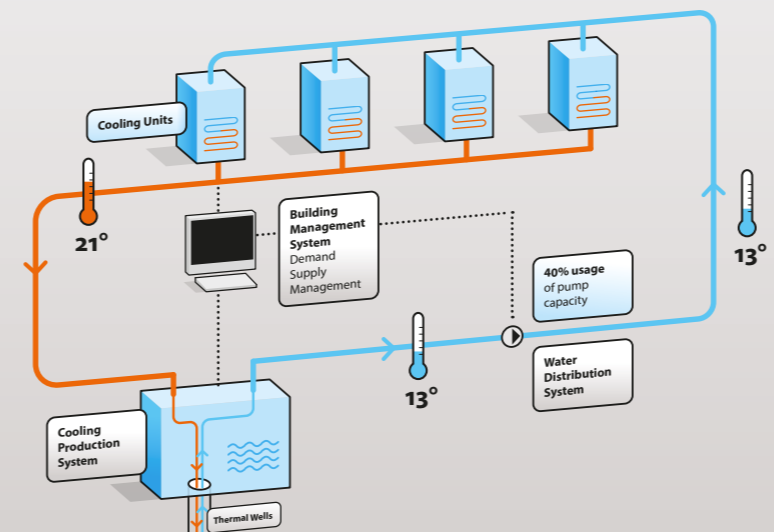
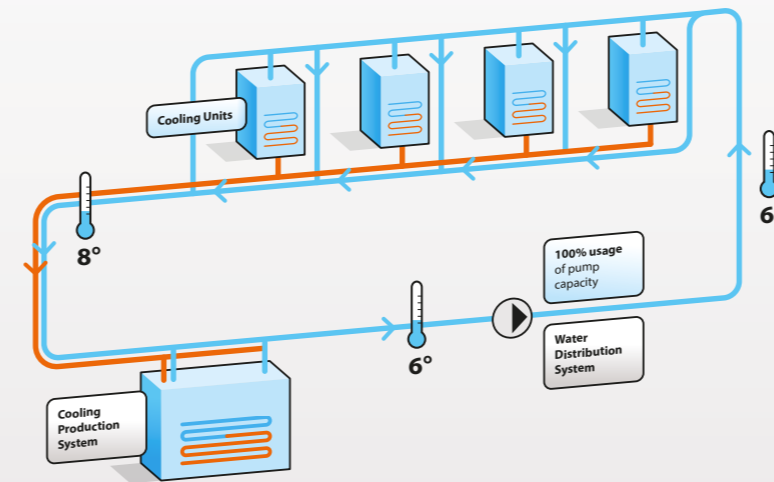


After Retrofit



Cooling Water Distribution

- Replacement of the cooling water distribution system, using:**
 - Demand controlled pumps
 - Pure water instead of a glycol-water mixture. Pure water carries more energy and consumes less pump energy
 - No adjustment valves in the installation
- Installation of a new Building Management System:**
 - Fully adjustable
 - Automatic failure response in the cooling system
 - All cooling and electric power is real-time measured and integrated in this system for an optimal control



Cold Generation System

Keeping the thermal wells in balance throughout the seasons.

- Installation of thermal water wells and cooling towers.**

The thermal storage is used to store free cooling energy, which is obtained during the winter period. During the summer this energy is used to cool the datacenter.

