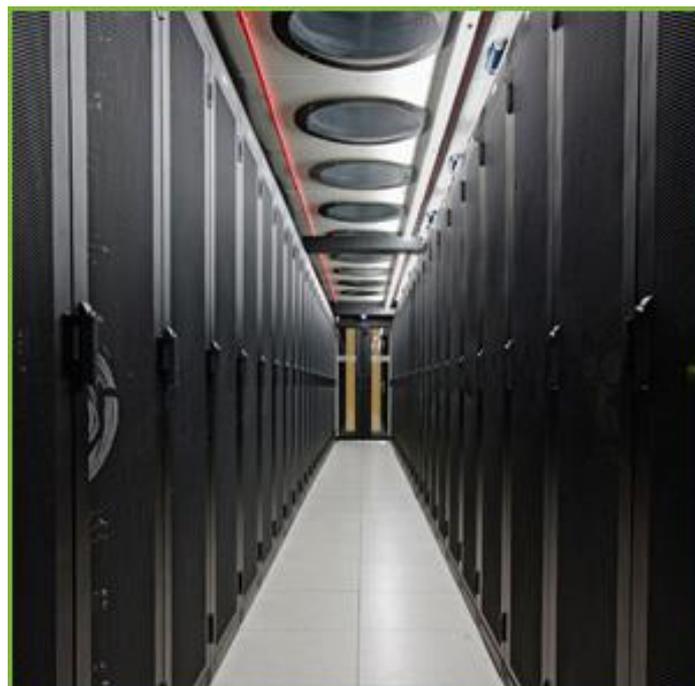


## SmartDC – IVG10-C Pro CoolWater skid

<b>Type of industry</b>	Data center
Cooling type and cooling towers	Adiabatic coolers for server rooms
<b>Before IVG installation</b>	
Evaporative capacity in MW	12 MW
Water evaporation	18.60 m <sup>3</sup> / hr
Water consumption	16.91 m <sup>3</sup> / hr
Cooling water thickening	Factor 2.1
Kilo of chemical consumption	6,840.00 kg
Discharge waste water on:	Sewage connection WWTP
<b>After IVG installation</b>	
	2014
Evaporative capacity in MW	12 MW
Water evaporation in m <sup>3</sup> / hr	18.60 m <sup>3</sup> / hr
Water consumption in m <sup>3</sup> / hr	05.31 m <sup>3</sup> / hr
Decrease water consumption in%	- / - 75%
Cooling water thickening	Factor 4.5
Kilo of chemical consumption	0.00 kg
Decrease in chemical consumption in% / - 100%	
Return on Investment	2.1 years
<b>IVG technology</b>	
Absorbed power	IVG10-C
Discharge waste water on:	2.2 kW
	Rainwater drainage without discharge costs



### **Vortex water treatment offers solution to chemical-free treatment of SmartDC cooling tower**

SmartDC was looking for a solution to prevent lime, microbiological growth and corrosion. That solution was found at Pathema. The data center opted for the IVG-C solution and this not only yielded a water saving of 75%, the adiabatic cooling tower was also optimized by degassing the cooling water. The cooling water solution that has been running smoothly at the data center since 2014 is seen as an important link in the sustainable operation of the data center. In particular, the flexibility to operate multiple cooling units with one water treatment offers them many options.

Downtime is unacceptable at data centers. Therefore water treatment is completely redundant and an option has been built to retain the cooling water longer, if there is a short supply of water. This offers the operator more certainty and guarantees towards the end users.

### **Triple R: Reduse, re-use & recycle**

As a result of using the IVG-C solution, SmartDC faced several savings. These savings are caused by a number of factors.

- Chemicals are no longer needed because the process and cooling water can be controlled and recycled completely free of chemicals.
- Reduced water consumption, because of thickening of the cooling water, can often be optimised. The drainage water from the cooling tower is free from chemicals due to the IVG-C treatment and therefore recycling of the non-evaporated cooling water can be achieved.
- Less energy consumption due to the degassing of the cooling water. This leads to an improved heat capacity and viscosity.

This project has an ROI of 2.1 years.

### **Carry out what you promised & know-how**

Pathema feels comfortable with the typical Rotterdam mentality of SmartDC. They both think talk is cheap most of the time. You simply carry out what you promised and do it with dedication, pleasure and expertise. Pathema has the ambition to deliver sustainable water technology to industry & society and thus continues to realize water treatment without using chemicals and make it the reality of today and tomorrow. This way we reduce water scarcity in harmony with the environment and profitability.