



RECLAIM POWER, BOOST PERFORMANCE, MAXIMISE SPACE AND SAVE MONEY

ku:l sistem

COOLING REDEFINED
www.iceotope.com



30%
CAPEX
SAVING

70%
OPEX
SAVING

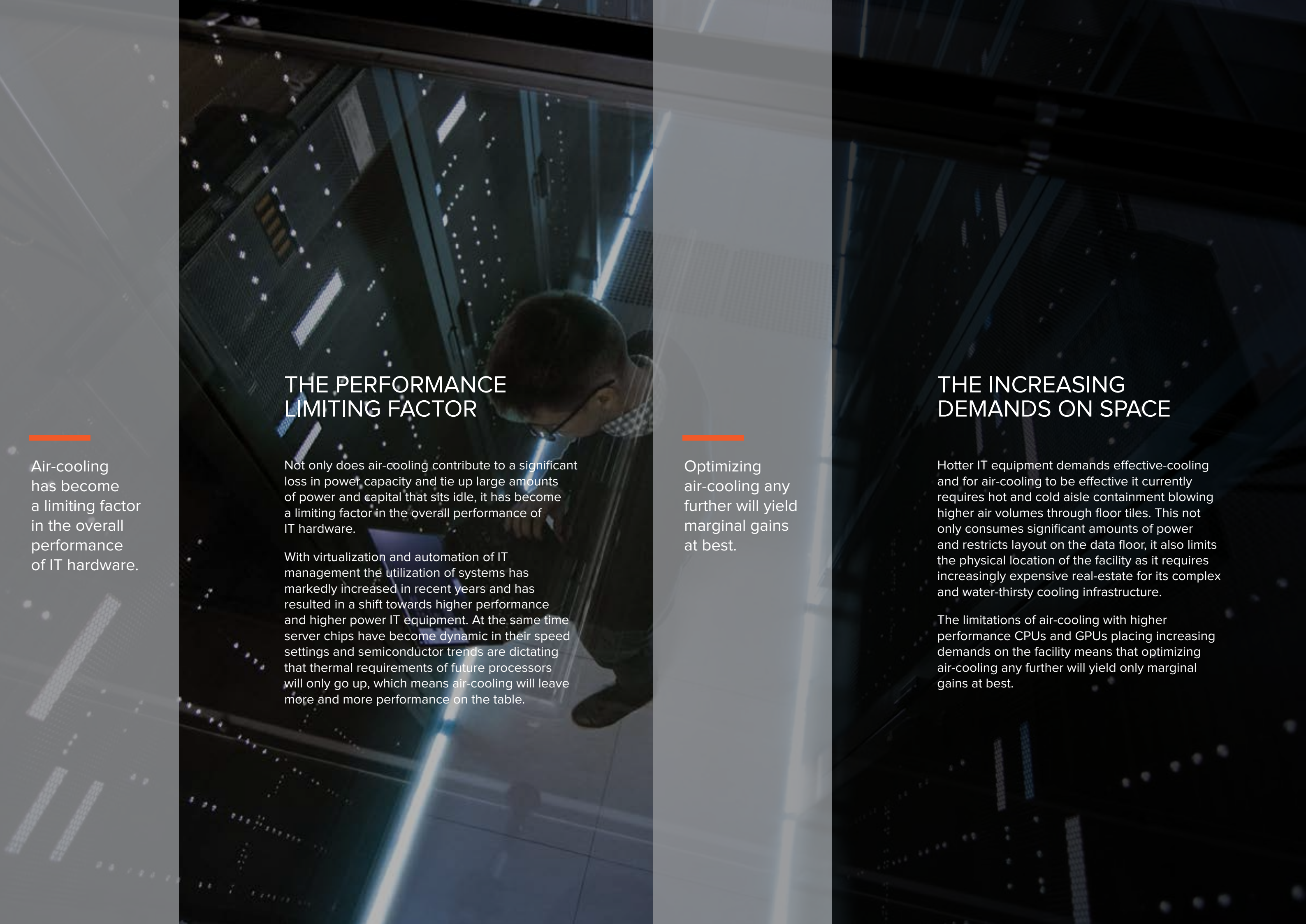
75%
SPACE
SAVING

State-of-the-art air-cooling designs and relaxed temperature settings will strand around 15-16%* of site power.

THE DESIGN PEAK CASE

Power capacity lost to air-cooling can amount to as much as 33%* of the total available power even in modern data centre builds. This is primarily due to the amount of power capacity that needs to be set aside for chilled water plant pumps and fans for the design peak case.

Another, more hidden, factor is the power loss caused by server fans, this factor can easily contribute 5-10%* to the IT load, not expressed in the standard PUE calculation. That means that even state-of-the-art air-cooling designs and relaxed temperature settings will strand around 15-16%* of site power.



Air-cooling has become a limiting factor in the overall performance of IT hardware.

THE PERFORMANCE LIMITING FACTOR

Not only does air-cooling contribute to a significant loss in power capacity and tie up large amounts of power and capital that sits idle, it has become a limiting factor in the overall performance of IT hardware.

With virtualization and automation of IT management the utilization of systems has markedly increased in recent years and has resulted in a shift towards higher performance and higher power IT equipment. At the same time server chips have become dynamic in their speed settings and semiconductor trends are dictating that thermal requirements of future processors will only go up, which means air-cooling will leave more and more performance on the table.

Optimizing air-cooling any further will yield marginal gains at best.

THE INCREASING DEMANDS ON SPACE

Hotter IT equipment demands effective-cooling and for air-cooling to be effective it currently requires hot and cold aisle containment blowing higher air volumes through floor tiles. This not only consumes significant amounts of power and restricts layout on the data floor, it also limits the physical location of the facility as it requires increasingly expensive real-estate for its complex and water-thirsty cooling infrastructure.

The limitations of air-cooling with higher performance CPUs and GPUs placing increasing demands on the facility means that optimizing air-cooling any further will yield only marginal gains at best.

ku:l sistem key benefits

30%
CAPEX
SAVING

70%
OPEX
SAVING

75%
SPACE
SAVING

1.03
PUE

NON-FLAMMABLE
NON-CORROSIVE
NON-TOXIC
DIELECTRIC

1000x
MORE EFFECTIVE
AT REMOVING HEAT
THAN AIR COOLING

THERMALLY
STABLE OVER
A WIDE RANGE
OF OPERATING
TEMPERATURES

USES
5x
LESS ENERGY
THAN AIR COOLING

100%
SEALED,
PROTECTED
AND RESILIENT

STANDARD
OR BESPOKE
FORM
FACTORS

NO FANS
NO NOISE
LOW
MAINTENANCE

USES
MINIMUM
AMOUNT OF
COOLANT

Our cooling technology uses 5 times* less energy, 75% less space*, and contributes to significant water savings.

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Dealing with heat at source, managing it effectively, and transporting it efficiently through the facility to outdoor dry coolers, Iceotope's liquid-cooling technology has 1000 times** the capacity to remove heat from electronics than air-cooling.

By adding more cooling capacity our cooling technology enables processors to be configured for higher power envelopes whilst maintaining run at higher performance levels. By removing the need for and the restrictions created by complex air-cooling infrastructure, our cooling technology can use 5 times* less energy, 75% less space*, and contribute to significant water savings.

Our cooling technology not only offers a CapEx saving of 30%* and an OpEx saving of 70%*, it also helps reclaim power capacity, boost IT performance, reduce failure risk, and simplify the data centre.

** Source Solvay
* Source Schneider Electric



IF YOU HAVE AN INTEREST
IN BETTER MANAGING THE
HEAT GENERATED BY YOUR
ELECTRONICS AND WOULD
LIKE TO EXPLORE EFFECTIVE
SOLUTIONS, GET IN TOUCH.

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