
interpanel®
WWW.INTERPANEL.COM
MADE IN GERMANY
The world´s coldest ceiling
THE NEW DEWPOINT-INDEPENDENT RADIANT HEATING, COOLING CEILING
LIGHT
COOL
HEAT
ABSORBING
SOUND
GLOBALLY PATENTED.
INTERPANEL is the exclusive licensee of the Fraunhofer Institute


Improving comfort.
Reducing energy consumption.

Unique all-in-one room climate solution

Simplified for builders, planners & architects

interpanel® offers a unique all-in-one room climate solution for the lighting, acoustics, heating and cooling of new and existing commercial properties.

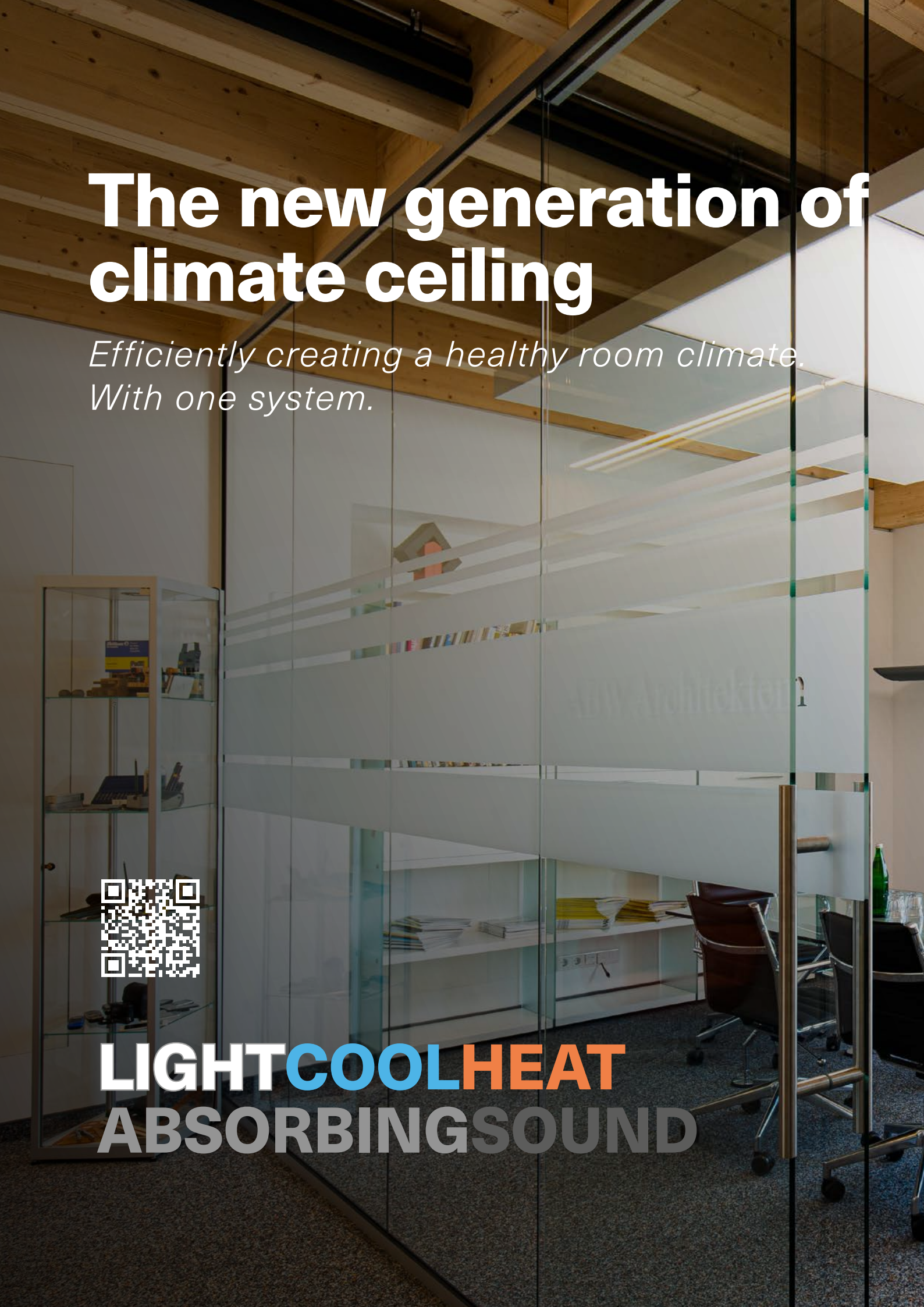
The special product design meets unparalleled functional performance values.

The technologies used by interpanel are based on principles that accommodate human physiological sensations in the best possible way, while significantly reducing energy demand and resource use.

For builders, planners and architects, interpanel is the solution when a pleasant and healthy room climate with an attractive appearance and user-friendly technology is to be created in an uncomplicated, rapid and high-quality manner.

Combined with renewable energy sources, CO2-neutral cooling and heating is possible with interpanel.

interpanel® is manufacturer (Made in Germany), system provider and develops, produces and distributes multifunctional room climate solutions. The company is at your side in your role as builder, planner, architect and installer.



The new generation of climate ceiling

Efficiently creating a healthy room climate.
With one system.

LIGHT COOL HEAT
ABSORBING SOUND

LIGHT
COOL
HEAT
ABSORBING
SOUND

interpanel® climate ceiling

Light, cool, heat, absorbing sound

The acoustically effective climate light is a multifunctional heating and cooling ceiling with circadian lighting and high acoustic absorption.

Unlike conventional radiant cooling ceiling sails, there is no dew point limitation of the supply temperature at interpanel. Consequently, the climate light and climate panel are the only radiant cooling systems that can be combined with natural window ventilation.

Permissible cold water temperatures of up to 6 °C ensure a completely draught-free, high cooling performance. The LEDs are connected to the thermally activated surface. They are thus deheated in both heating and cooling mode. This increases the lifetime of LED chips in the luminaire. The climate control luminaire thus combines, in a smooth, closed surface, ceiling heating based on thermal radiation, ceiling cooling, circadian workplace lighting, as well as high acoustic absorption for optimal speech intelligibility and a healthy room climate.

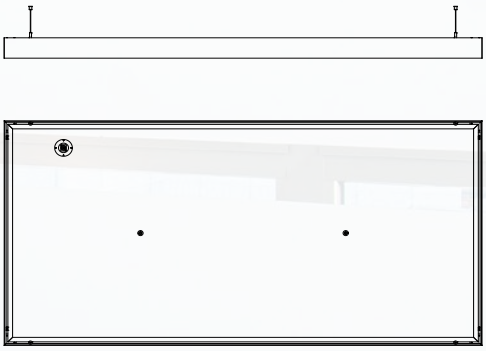
The acoustically effective climate light is delivered completely prefabricated and can be installed in existing and new buildings in a short time.

As a silent heating and cooling system with long-life LED technology, the climate control light is maintenance-free.

Made in Germany

Features

Weight in kg/m²	12
Size L x B x H in mm	2159*1064*100
Dimension in m²	2,3
Minimum total height	as of 180 mm
Connection	warm-, cold water supply 230 V



Functions

	CLIMATELIGHT	CLIMATEPANEL	ACOUSTICLIGHT
Cooling	X	X	
Heating	X	X	
Lighting	X		X
Absorbing sound	X	X	X
Frame color	X	X	X

Service & process

For successful projects

We offer personal support for building developers, planners and architects for the optimal design with the various requirements for lighting, acoustic and heating/cooling systems. This supports a safe and streamlined construction process at all times.

The interpanel system can be optimally integrated into commercial existing and new buildings of any size with the acoustically effective climate light. The prefabricated and modular construction ensures easy design, planning, installation and operation.

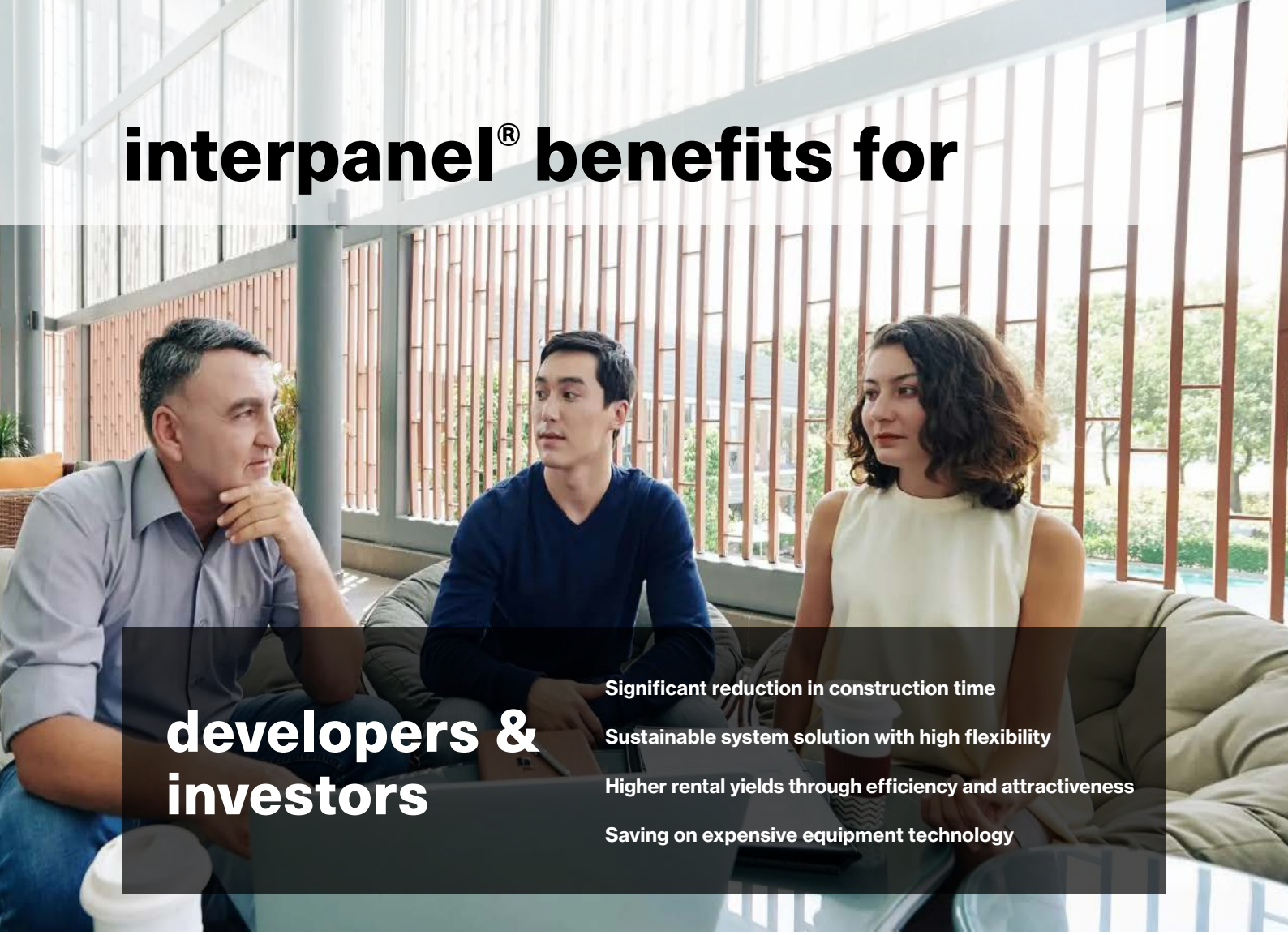
To operate an electrical connection (only climate light and acoustic light) and a heating, cooling supply with water are required. With just one ceiling element, high-quality rooms with silent ceiling cooling and heating, circadian workplace lighting and good room acoustics can be created quickly and safely.

As a manufacturer and system provider, interpanel supports you from the first planning steps to the optimal operation of the system.

Request	**Discussion of your project** **Pre-checking your documents**
Advice	**Support with concept comparisons** **Simulation studies** **Pre-dimensioning**
Engineering	**Photometric calculation** **Technical coordination** **Detailed calculations and simulation**
Execution	**Briefing and coordination with associated crafts** **Installation and instruction** **Technical support**
Approval	**Commissioning** **Calibration, testing and documentation**
Operation	**Indoor climate monitoring** **Energy and operational optimisation**

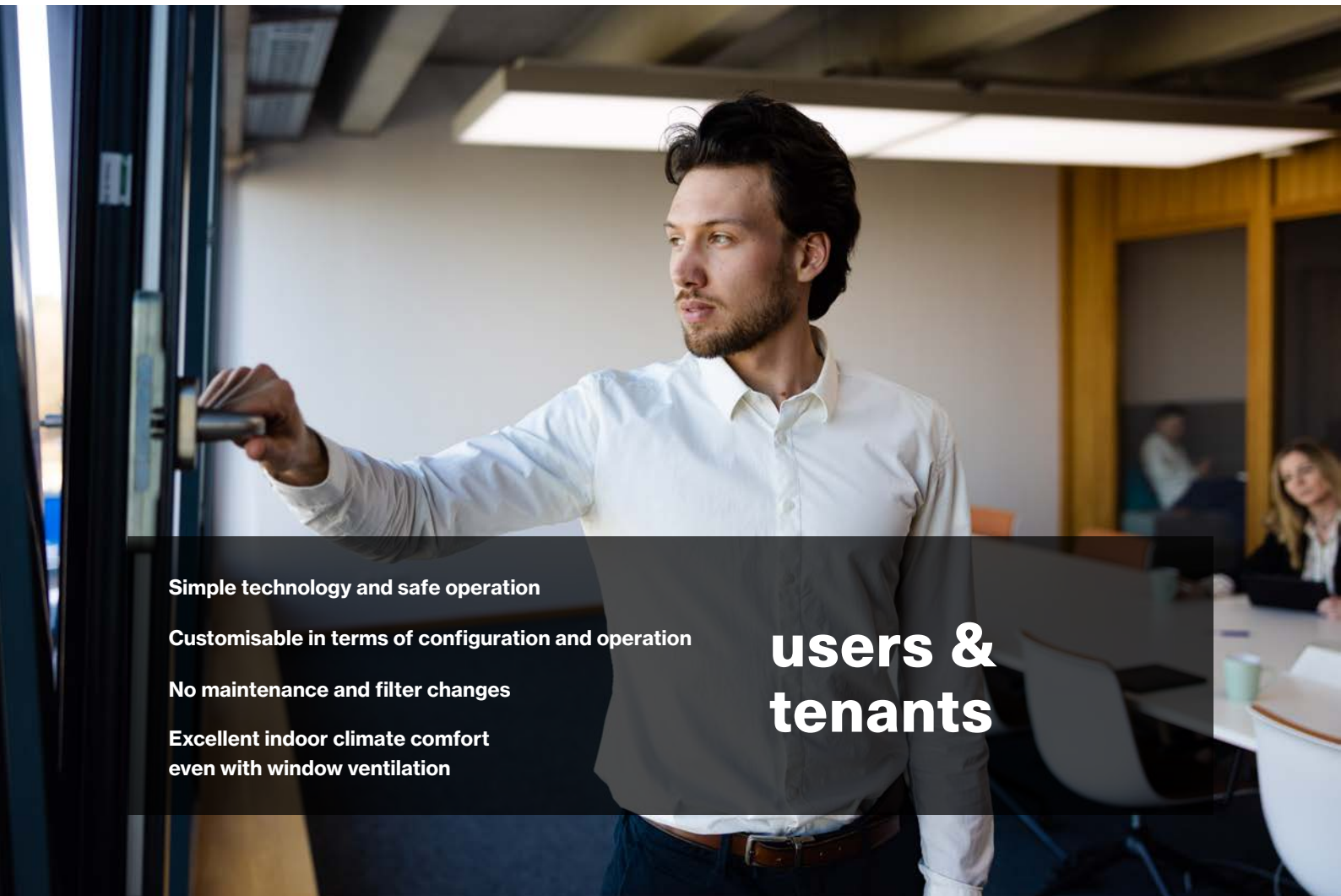
interpanel supports you from the first planning step to the optimal operation of the system.

interpanel® benefits for



developers & investors

- Significant reduction in construction time
- Sustainable system solution with high flexibility
- Higher rental yields through efficiency and attractiveness
- Saving on expensive equipment technology



users & tenants

- Simple technology and safe operation
- Customisable in terms of configuration and operation
- No maintenance and filter changes
- Excellent indoor climate comfort even with window ventilation

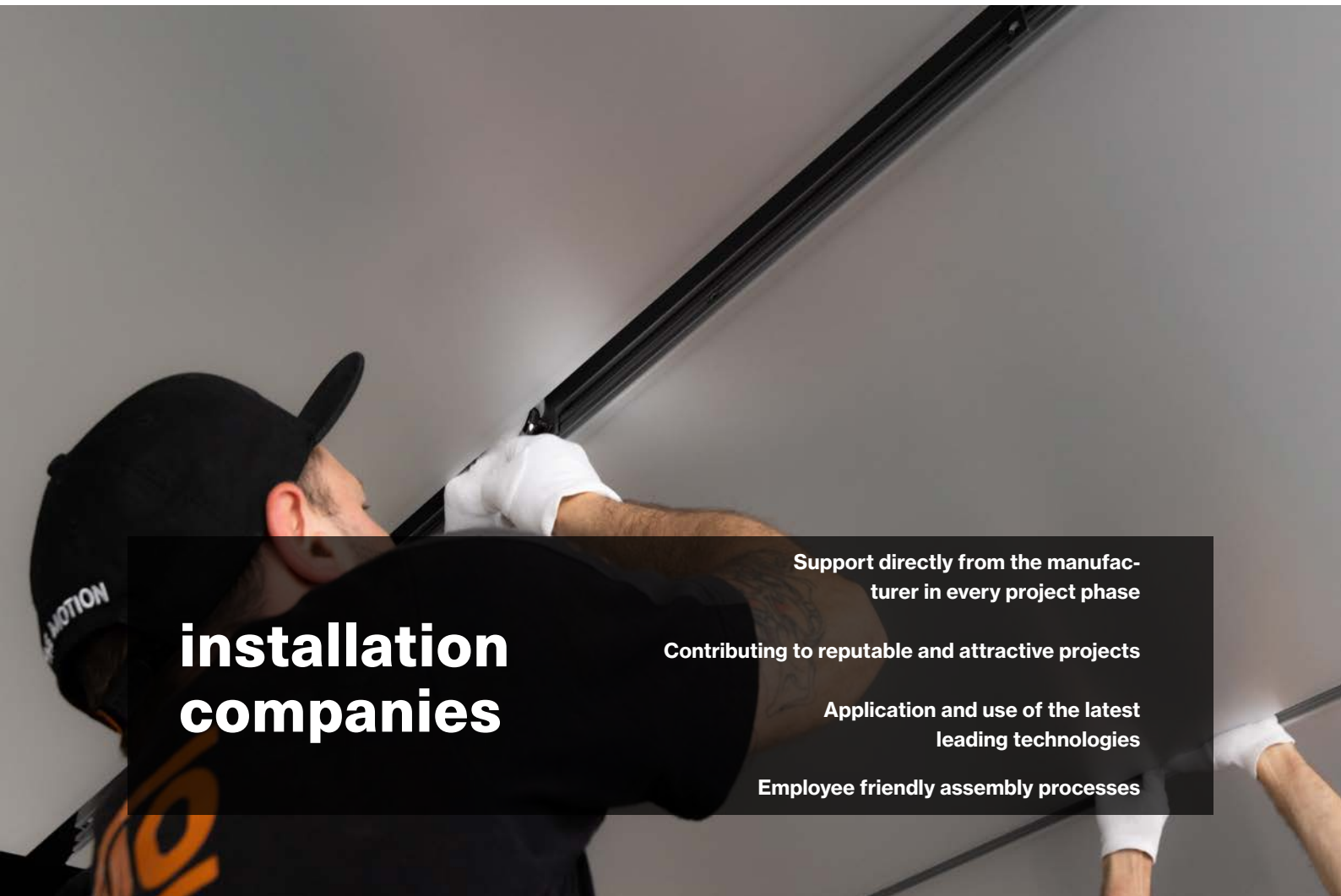
architects & planners

All-in-one system for four room climatic requirements

Reduction of system and interface complexity

High-performance reliable technology

More time for more crucial project assignments



installation companies

Support directly from the manufacturer in every project phase

Contributing to reputable and attractive projects

Application and use of the latest leading technologies

Employee friendly assembly processes

18 unique advantages of the dew point independent heating, cooling ceiling

Radiant cooling in a new dimension

The interpanel radiant cooling ceiling uses the globally patentet „membrane-assisted-cooling“ technology.

This makes it possible to operate the chilled surface permanently below the dew point temperature of the ambient air.

This results in considerable advantages, especially for commercial properties, compared to dew point-dependent radiant cooling ceilings.

The cooling capacity is increased by up to 300 %, while at the same time the required power is reduced.

In consequence the efiicency and comfort and easiness of design and operation is dramatically increased.

Several advantages are collected in the next table.

FUNCTIONAL TEST OF THE DEW POINT-INDEPENDENT RADIANT COOLING CEILING WITH A THERMAL IMAGING CAMERA

Selected advantages of interpanel's dew point-independent heating and cooling ceilings compared to dew point dependent heating and cooling ceiling systems

No dew point shut-off and control necessary	No additional dew point shut-off or control is required also no window contacts.
Reduced ceiling coverage	Due to the very high cooling capacity already from 20 °C room temperature and use of the thermal mass, occupancy rates of approx. 25 % are ideal for complete coverage of the heating and cooling loads.
Combination with window ventilation	As the only cooling ceiling system that is independent of the dew point, interpanel can be reliably and permanently combined with window ventilation.
No additional energy for dehumidifying the air	There is no need for additional full air conditioning. This can account for up to 60 % of the operating costs without significantly increasing comfort.
Convection-free even at > 200 W/m²	The heating, cooling surface works mainly with the exchange of thermal radiation and without convection. Even extremely high heat loads can be reliably dissipated in this way.
Flexible zoning	The unique modular design allows flexible zoning, which can also be adapted at a later date when the tenant changes.
Inflow temperatures from 6 °C, ideal 8 - 14 °C	Ideally suited for a combination or connection to an existing cooling network and operation with heat pumps or regenerative sources.
Smaller chiller size	Due to the high cooling capacity and using of thermal mass, it is often possible to reduce the size of the system by up to 50 %. This saves considerable costs and effort.
One chilled water system	The permissible low inflow temperature allows conventional air-conditioning technology to be operated in the same water system. A second hydraulic network is not required.
Zonal cooling	Local heating and cooling islands can be created from the 3-panel upwards. This means that the whole room does not have to be heated or cooled. Therefore energy is saved.
High infrared ratio and therefore optimal comfort in heating and cooling	Infrared heat and cooling is physiologically very comfortable. The even distribution of heat and cold ensures a perfect room climate.
Simple control	In the simplest case, simple room thermostats are sufficient. The system can also be combined with KNX, DALI and other systems.
Conservation of resources	High-performance components require less material, resources and energy. All components can be replaced individually.
Using of night cool down the building's thermal mass	The thermal mass of the building can be used very efficiently via night cooling with the cooling sails.
Natural ventilation does not decrease performance	Due to the high proportion of radiation, the air is not directly cooled or heated. Window ventilation is then possible efficiently.
Cost-effective	Multifunctionally designed, up to four room climate factors - light, acoustics, heating, cooling - are covered by one system. This saves coordination, planning and installation costs.
Maintenance-free	The ceiling elements are maintenance-free. However, each component can be replaced individually if necessary.
Individual temperature comfort profiles	As a low-temperature cooling system with a flow temperature of up to 6 °C, any desired room temperature can be achieved.

Depending on the project, other factors can contribute to success. With the dew point-independent heating and cooling ceiling, numerous new possibilities and fields of application for silent cooling can be implemented. Talk to us.

System comparison

Feature	air conditioning system	heating and cooling ceiling dew point DEPENDENT	interpanel heating and cooling ceiling dew point **IN**DEPENDENT
Functional principle	cooling and circulation of room air	convection cooling and cooling via radiant heat	predominantly cooling via radiant heat
Integration	no	room lighting acoustics, fixtures	workplace lighting, room lighting acoustics, fixtures, sensors
Comfort level	Challenges are hygiene, dry air and draughts. Often uncomfortable. Very cool room temperatures possible.	Physiologically favourable. With dew point shut-off unreliable problematic in summer. In the room, 2 - 5 °C below the outside air temperature is possible.	Physiologically favourable climate with silent cooling „from above“. In the room, >20 °C below the outside air temperature is possible.
Cooling capacity achievable under comfort conditions	20 - 35 W/m²	in summer climate approx. 0 - 25 W/m²	> 130 W/m² climate panel > 200 W/m² climate light
Dew point shut-off	/	yes, window contacts, dew point sensor + MSR	/
Air dehumidification	possible, often too dry air	necessary separate cooling circuit necessary	not necessary can be combined directly if required
Noise	audible	silent	silent
Energy demand	very high	low	low
Maintenance	regularly	none	none
Filter change	regularly	/	/
Investment costs	initial investment: low-medium operating costs: high	initial investment: medium-high operating costs: low	initial investment: medium operating costs: low
Refrigerant	refrigerant	water	water
Installation	specialist company for chilling	Costly due to interfaces and drying processes. Assembled on site.	supplied completely prefabricated, dry and quickly assembled, easy also in retrofit
Flexibility	Low. Supply air zones restrict room flexibility.	Inflexible. Firmly connected to building structure.	Highly flexible. Zones can be adapted afterwards.
Utilisation thermal mass	difficult	possible to a limited extent	very well possible due to low-temperature cooling
Upgradable in existing buildings	conditionally	very complex	easily possible
Combination with window ventilation	not recommended	technically not reasonable possible	easily possible
Response time	fast	slow	fast

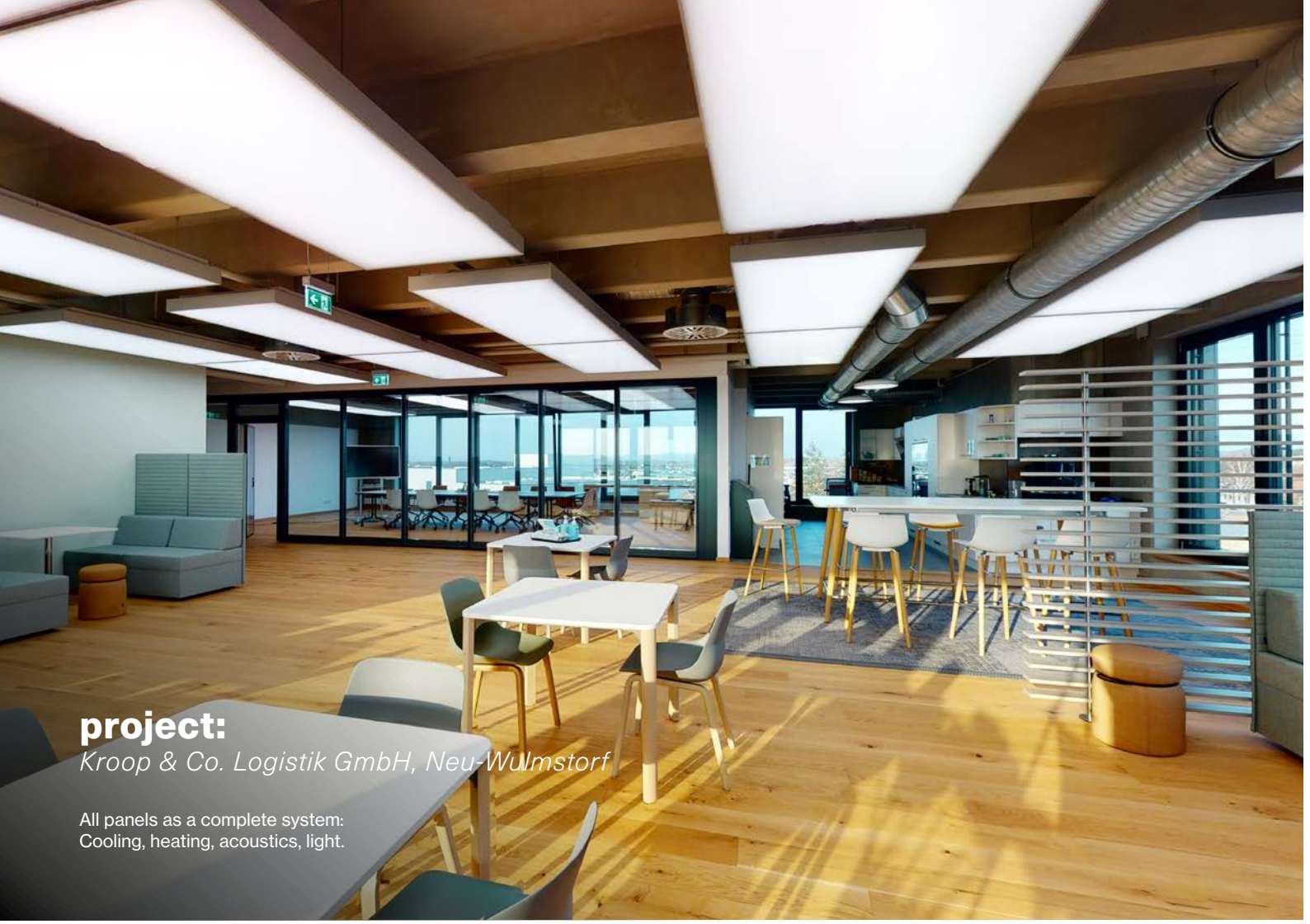
Other factors are often relevant for specific projects. The dew point-independent heating, cooling ceiling offers numerous new possibilities and fields of application for implementing silent cooling. Feel free to contact us directly.

System comparison

Air conditioning system

dew point dependent heating and cooling ceiling

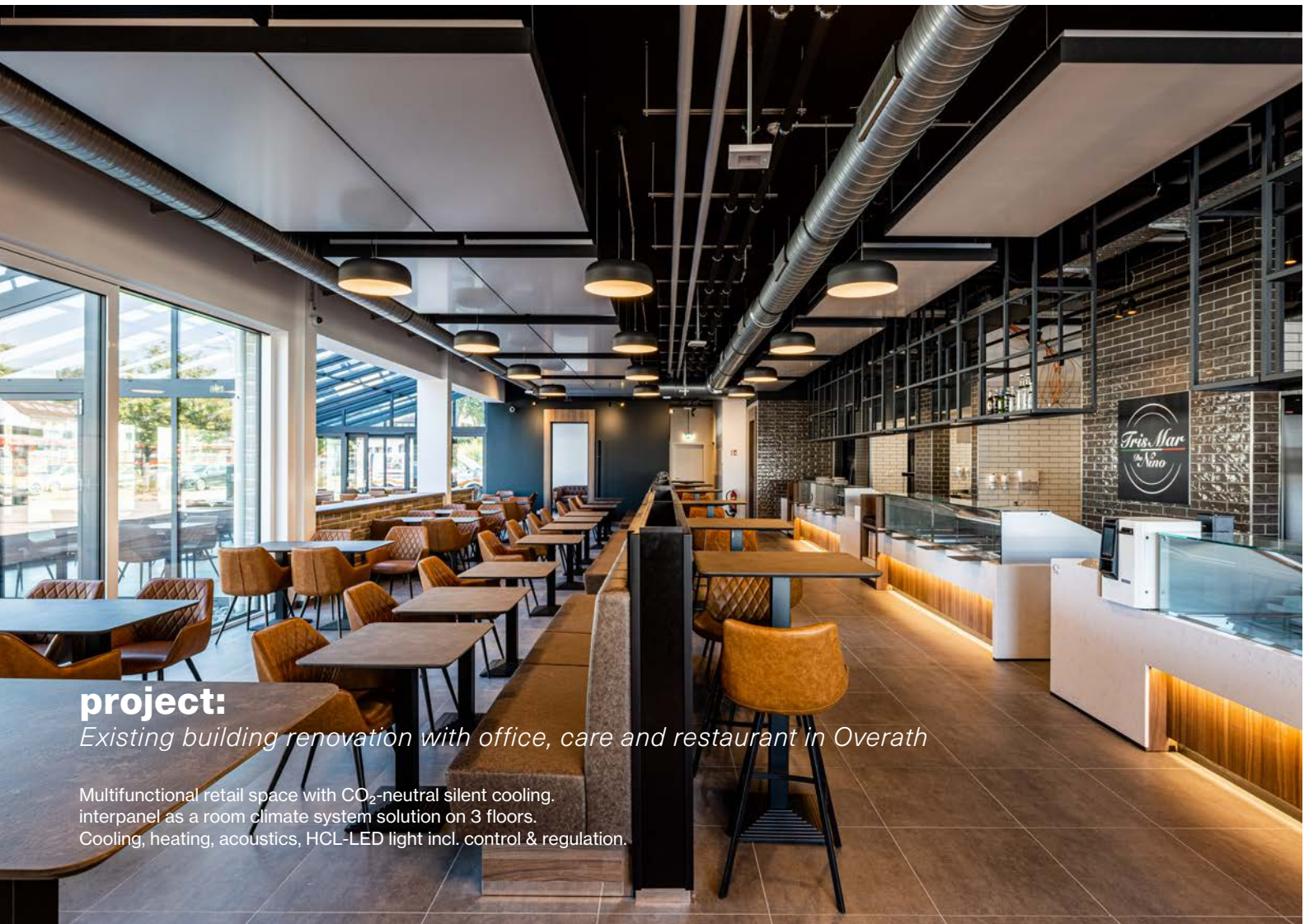
interpanel® air-conditioning lighting & climate panel



project:

Kroop & Co. Logistik GmbH, Neu-Wulmstorf

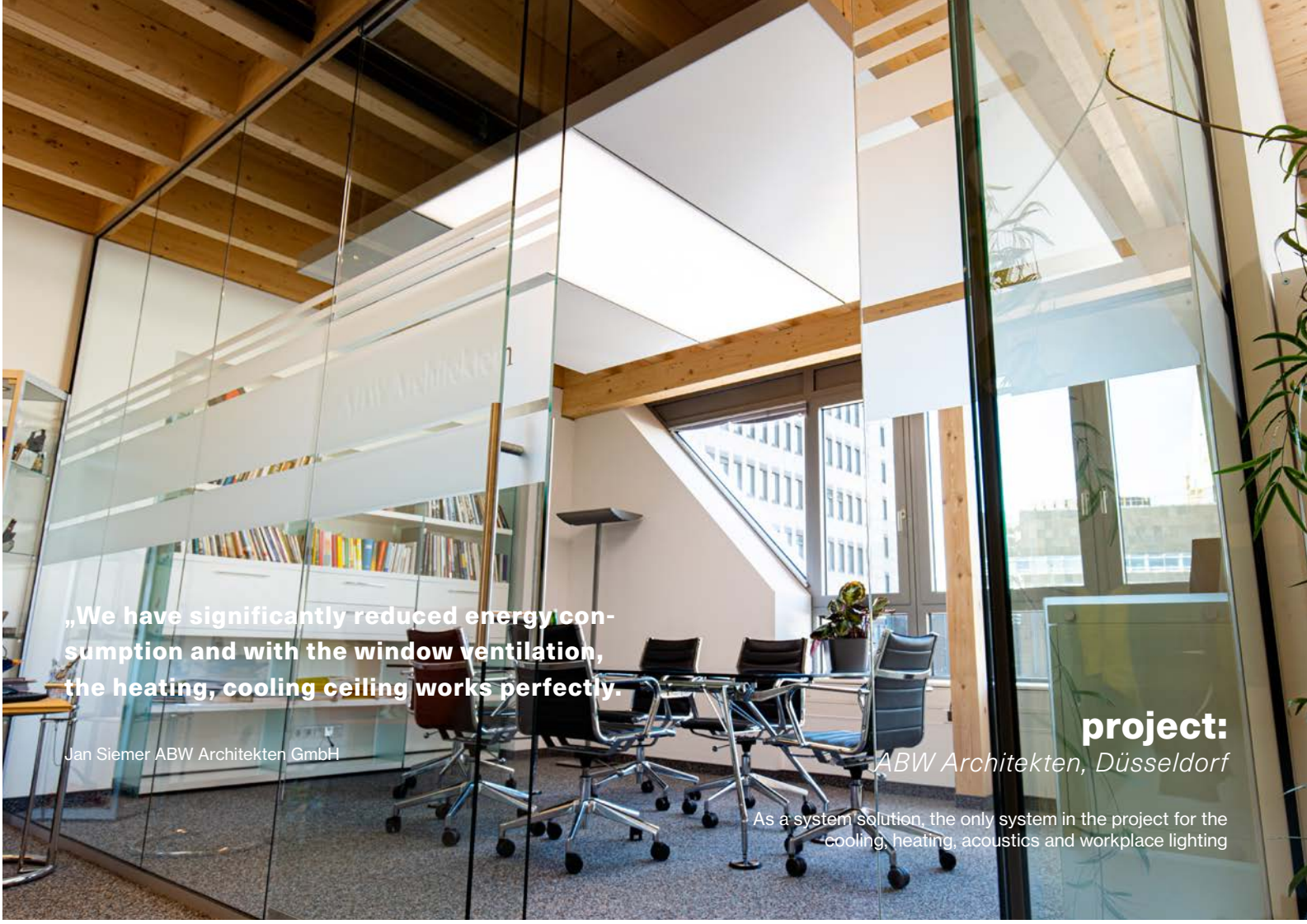
All panels as a complete system:
Cooling, heating, acoustics, light.



project:

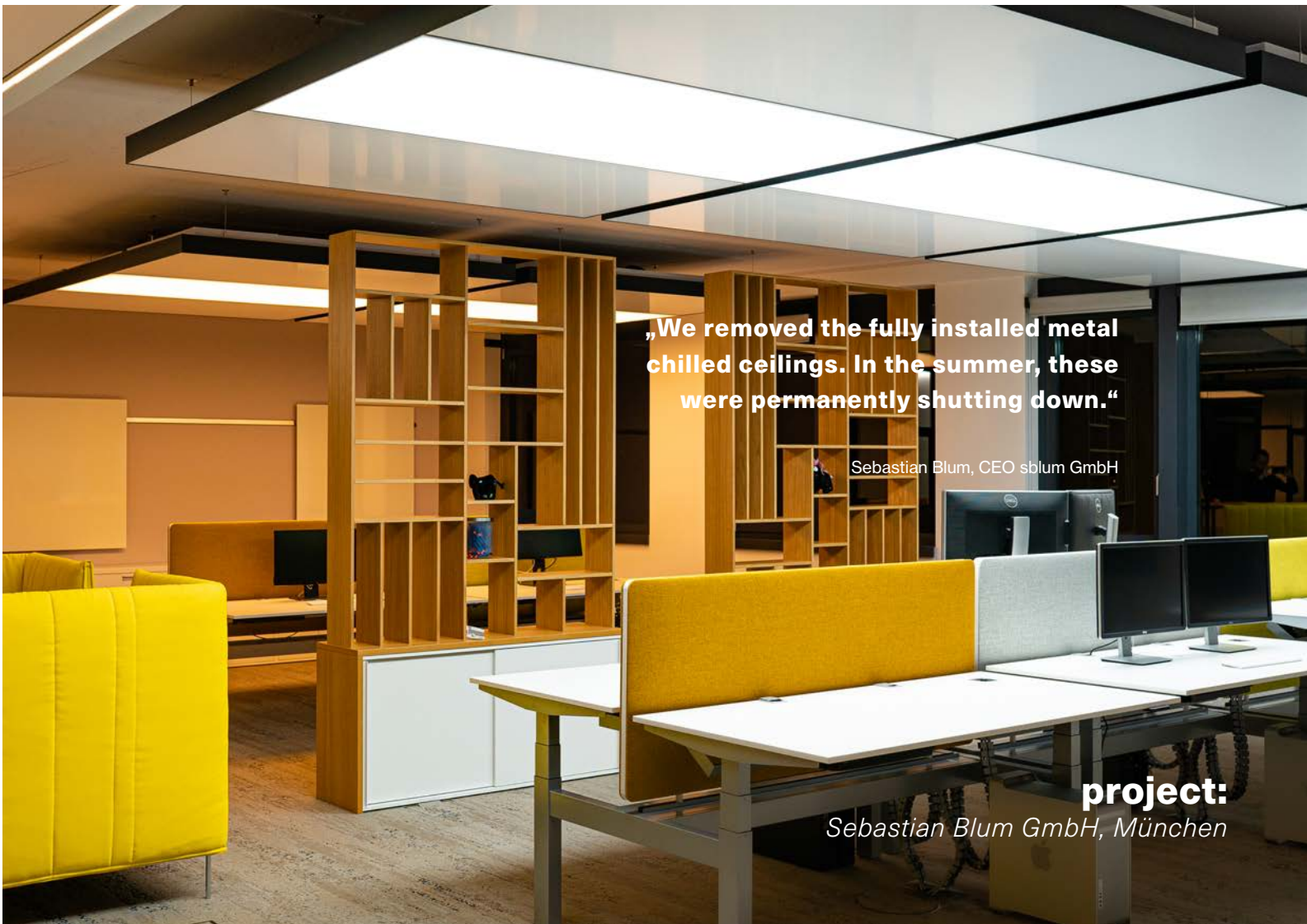
Existing building renovation with office, care and restaurant in Overath

Multifunctional retail space with CO_2-neutral silent cooling.
interpanel as a room climate system solution on 3 floors.
Cooling, heating, acoustics, HCL-LED light incl. control & regulation.



project:
ABW Architekten, Düsseldorf

As a system solution, the only system in the project for the cooling, heating, acoustics and workplace lighting



project:
Sebastian Blum GmbH, München

Radiant cooling **without** dew point shut-off

interpanel®

DIRECT REQUEST

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AWARDS (I.A)

Global Top 100, SET-Award of dena, World Energy council, Berlin	2021
Winner Sustainabillity Challenge "Innovation" DGNB	2020
Top 25 global from 1600 #ConTechMap BUILTWORLD	2020
Global Top 100, SET-Award of dena, World Energy council, Berlin	2018
Winner PERPETUUM (DENEFF) Energy Efficiency Award	2018
Top 3 Handelsblatt Energy Awards, Berlin	2018
TV-Spot on „einfach genial“, Munich	2017
Winner Scale-Track „Green Building“, San Francisco	2017
Medical Valley Award Top 2	2017

A spin-off of the Fraunhofer IBP

eXIST Existenzgründungen aus der Wissenschaft

Bundesministerium für Wirtschaft und Energie

ESF Europäischer Sozialfonds für Deutschland

Zusammen. Zukunft. Gestalten.

Europäische Union

Made in Germany