Uponor offers construction professionals uncompromising quality, leading-edge expertise and long-lasting partnerships. As a leading international company, we are known for our solutions that help create better human environments.

Uponor’s Simply More philosophy includes services for all stages of the construction process – from the first concept of a project to a building in use.

Radiant Cooling—Comfort and efficiency for your building
What’s so special about a forest glade? It is the comfortable climate – calm, quiet and never too hot, even in the middle of summer. Radiant cooling creates an equally comforting indoor climate in your building, which can be just as comforting. In a residential building inhabitants can relax in a comfortable atmosphere; in an office building, the system performs efficiently even during the hottest days.

Radiant cooling by Uponor offers an efficient, ecologically sound and noise-free indoor climate. It is more energy-efficient than traditional systems and provides the best possibilities for utilising free and renewable energy sources for cooling.

Why is cooling so necessary?
Comfort and a high-quality indoor climate throughout the year are much more than an item on a wish list. These factors attract people to live and work in comfortable environments, and enhance the market value of properties. Maybe even more importantly, people are more productive when they feel comfortable. Additionally, many countries have regulations and guidelines for indoor climate in workplaces.

Buildings with a poor indoor environment are difficult to rent or lease. Installing or retrofitting a cooling system helps owners rent or lease office space at a reasonable cost and boosts the resale value of a building. With its low installation, operating and maintenance costs, Uponor’s radiant cooling solution not only provides optimal comfort, but is also highly economical.

Futuristic architecture
- House in house concept
- 22 steel beams suspend the glass roof
- Exterior dimensions approx. 140 m x 70 m
- Height 36 meters
- 8 floors (above ground level)
- Space for more than 1,000 employees
- Concrete core activation avoids draught and dispersal of dust, bacteria or allergens

“Radiant cooling helps create a comfortable working environment.”

Berliner Bogen, Hamburg (Germany)
Climate: Moderate
Challenge: Provide architectural freedom and comfortable office environment
Area: 32,000 m²
Solution: 18,000 m² of Uponor thermally activated structures
Compared with traditional air conditioning, radiant cooling has many advantages. It does not generate a cold draught and thus reduces dust and other allergens – a benefit highly appreciated by anyone with allergies. Radiant cooling is also silent – no noise from fans or blowers. Gentle cooling guarantees a comfortable, stable indoor climate.

Uponor radiant cooling – the key to comfort

“A comfortable and healthy indoor climate helps people cope with the challenges of working in a clinic.”

EuromedClinic, Fürth (Germany)

Climate: Moderate
Challenge: Provide a healthy and efficient working environment
Area: 2,000 m²
Solution: 2,000 m² of Uponor thermally activated structures and Uponor radiant floor heating and cooling

Business class for health
- 8 operating theatres
- Intensive care units with 10 beds
- 4 nursing stations with a total of 176 beds
- Bathing section with swimming pool
- Sections for patient exercises and therapy
- Low-energy consumption and high thermal comfort with Uponor radiant cooling and heating
How does radiant cooling work?

A radiant cooling system utilises large surfaces, such as the floor, wall or ceiling. Rooms are cooled by circulating water through embedded plastic tubes, excess heat being absorbed by the surface. Air change rates can be reduced to a minimum. Nearly all radiant cooling system components are concealed, which enhances the architectural concept and improves the room’s aesthetics.

Similarly to radiant heating, the temperature of the water circulating in the pipes and room temperature are always close to one another, creating gentle, comfortable cooling. Cooling energy consumption is reduced, a key factor in obtaining moderate energy bills.

Radiant cooling provides the best opportunities for utilising free cooling sources, such as the ground, ground water or solar absorption chillers. It is a genuine benefit of the system that it allows you to install both heating and cooling based on a single system.

The largest radiant cooling project of all time

- Exterior dimensions approx. 440 m by 110 m
- 3.5 km of concourses
- Requisite indoor air temperature 24°C
- Underfloor cooling system directly absorbs heat from solar radiation
- Floor cooling load of 70 – 80 W/m²
- Preliminary temperature 13°C, return temperature 19°C

Suvanabhumi Bangkok International Airport, Bangkok (Thailand)

Climate: Tropical
Challenge: Average day temperatures up to +34 °C, high relative humidity
Area: 500,000 m²
Solution: Hybrid system consisting of 150,000 m² of Uponor radiant floor cooling combined with variable air volume ventilation

“I enjoy a cool climate during visits to the airport.”
Cooling systems by Uponor
A perfect solution for every building

New build or renovation, residential or office building, cooling by floor, ceiling or wall – the system range of Uponor offers a perfect solution for every project.
Radiant cooling is the key to both comfort and efficiency, by providing an ideal indoor climate during all four seasons. Last but not least, in combination with ground or solar energy systems, it is one of the most sustainable cooling solutions available.

Uponor thermally activated structures
Cost-efficient cooling for office and public buildings, with a cooling capacity of up to 40 W/m².
- Low investment cost
- Possibility to use renewable energy sources, e.g. ground cooling
- Used for both heating and cooling
- Architecturally and visually appealing solution, since pipes are embedded in structural elements of the building (walls or floors/ceilings)

Uponor radiant floor heating and cooling
Comfortable heating and cooling solution for both residential and commercial buildings, with a cooling capacity of up to 40 W/m².
- Used for both heating and cooling
- Suitable for buildings in which individual room temperature control is required
- Possible to use renewable energy sources, i.e. ground or solar energy systems
- Suitable for various floor constructions

Uponor capillary mat cooling
Thin, fast and efficient for ceiling and wall installations, with a capacity of up to 75 W/m².
- High output
- Versatile for various constructions, e.g. plastered ceilings and walls
- Low construction height

Uponor ceiling cooling
An economic and efficient solution for suspended ceiling cooling, with a capacity of up to 55 W/m²
- Especially suitable for renovation objects, where an existing suspended ceiling support framework can be used
- Fast installation
- Good cost/performance ratio

Uponor wall cooling
A fast cooling panel system for drywall installations, with a capacity of up to 45 W/m².
- Used for both heating and cooling
- Suitable for new build and renovation projects
Länsförsäkringar, a Swedish insurance company, wanted to improve the attractiveness of one of its office buildings in Västerås. The building houses various tenants, ranging from dentists and legal practices to banks and shops. Consequently, the floor plans differ, with open-plan offices as well as traditional single-office rooms. By renovating the building, Länsförsäkringar now has spaces that can be utilised more flexibly.

Another benefit is a comfortable room climate, which is important due to its high impact on productivity in an office environment. The installation of Uponor ceiling cooling panels resulted in an even temperature distribution without draught. Office space can be adapted as needs change, for example when a new tenant moves in. Compared to conventional solutions, the installation was fast and economic – an important factor in renovation projects.

Akron Art Museum, Akron (Ohio, U.S.)

The Akron Art Museum, designed by the Austrian architects’ office Coop Himmelb(l)au serves not only as an exhibition space, but also caters for urban experiences such as banquets, art festivals and various other events. The building is divided into three parts: the Crystal, the Gallery Box and the Roof Cloud. By focusing the energy used to condition the space in the areas where people are located, operating costs and energy use are significantly reduced. The floors of the Gallery Box and Crystal are composed of concrete slabs with embedded tubes that supply heating and cooling by changing the slab temperature. This radiant floor cooling system is more efficient than traditional forced-air systems.

Climate: Moderate
Challenge: Provides better energy efficiency without compromising comfort
Area: 6,050 m² total
Solution: 4,200 m² of Uponor radiant floor heating and cooling

“...the benefits of a comfortable climate made it a worthwhile investment.”

Länsförsäkringar Office Building, Västerås (Sweden)

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Climate: Moderate
Challenge: Introduce comfortable cooling to existing buildings
Area: 28,000 m² divided between several buildings
Solution: 2,500 m² of Uponor ceiling cooling panels

„It is smart to focus cooling on the areas where people are.”
Hotel Complex Vila Joya, Algarve (Portugal)

Hidden amidst stunning scenery, Hotel Vila Joya is referred to as the jewel of the Algarve. This luxurious and intimate inn, resembling a small oriental palace, is a nature's paradise on the outer edge of Europe. It has the ocean at its feet and is surrounded by subtropical gardens. Breathtaking views and fresh ocean fragrances are enjoyed from each terrace. Indoors, guests are indulged by the tasteful interiors and individually decorated rooms.

The building, in Moorish style, conceals modern technology: state-of-the-art TVs and CD players, cooling systems and underfloor heating, now with increased capacity due to the construction of three new suites. For the new rooms, two types of Uponor systems were installed: radiant floor heating and cooling and the Uponor capillary mat cooling system, for ceilings in the Master Royal Suite Alegria, Royal Suite Joia and Deluxe Junior Suite Maresia.

“Even when it is too hot outside, we enjoy the cool luxury of our suite.”

Manitoba Hydro Downtown Office, Winnipeg (Canada)

The building is an energy-efficient, cost-effective structure that demonstrates Manitoba Hydro’s commitment to sustainable development. With its nearly 65,000 m² of gross area, it provides a healthy and effective office environment for 2,150 employees.

Glass walls in combination with narrow floor plates allow for maximum daylight penetration throughout the workspace, contributing to improved productivity. The building design utilises passive systems for ventilation, heating and cooling. For example, the need for a forced air circulation system is reduced by natural ventilation. Fresh air is drawn into the atria on the south side of the building and is exhausted passively by a solar chimney. Additional cooling is accomplished by Uponor thermally activated structure ceiling cooling, operated by a geothermal heat pump system for ground heat exchange. In the winter, the system extracts heat from the ground to heat the building; in the summer, the building is cooled by returning the extracted heat to the ground.

“Even when it is too hot outside, we enjoy the cool luxury of our suite.”

Manitoba Hydro Downtown Office in Winnipeg makes a positive contribution to sustainable development.”

Area: 64,590 m²
Solution: Uponor thermally activated structure cooling on 19 floors, each floor designed around 1.2 gpm x 450’ pipe loop of ¾” PEX tubing

Opens Summer 2008