

**OMNITURM,  
Frankfurt, Germany**

**Uponor**

**Nearly 150 heat interface  
units for an individual  
room climate**





## ➤ Premium technology for premium apartments

A single glance upwards is enough to reveal that the OMNITURM skyscraper in Frankfurt's banking district is anything but ordinary. Between the 15th and 22nd storeys, the 190-metre-high building slides out from its vertical structure. The architects of the Danish Bjarke Ingels Group refer to this spectacular middle section, with its protruding terraces, as the "hip swing". As apartments are contained within, tenants not only enjoy a breathtaking view of the financial capital below, but also benefit from their own personalised ambient conditions – with the technology provided by Uponor.

### Key facts

- 147 apartments
- 8.200 m<sup>2</sup> living space
- Completion: 2019
- 147 heat interface units

## ► A spectacular and functional skyscraper

Tishman Speyer, one of the world's leading owners, developers, operators and fund managers in the property sector, has created a spectacular yet functional skyscraper with OMNITURM. It is the first such project in Germany to offer genuine mixed use; alongside public areas with restaurants, co-working spaces and event venues in the lower floors, the tower also offers ample space for offices and private residential units. "As the name suggests, OMNITURM is a tower for everyone. It brings people together," explains Ingo Langner, Technical Manager at Tishman Speyer.

The skyscraper's building services are fully geared towards sustainability; energy-saving LED lighting is in use, for example, and the lifts are operated using intelligent technology. By virtue of these and other measures, the building has been awarded LEED certification at the highest level (platinum) from the U.S. Green Building Council.



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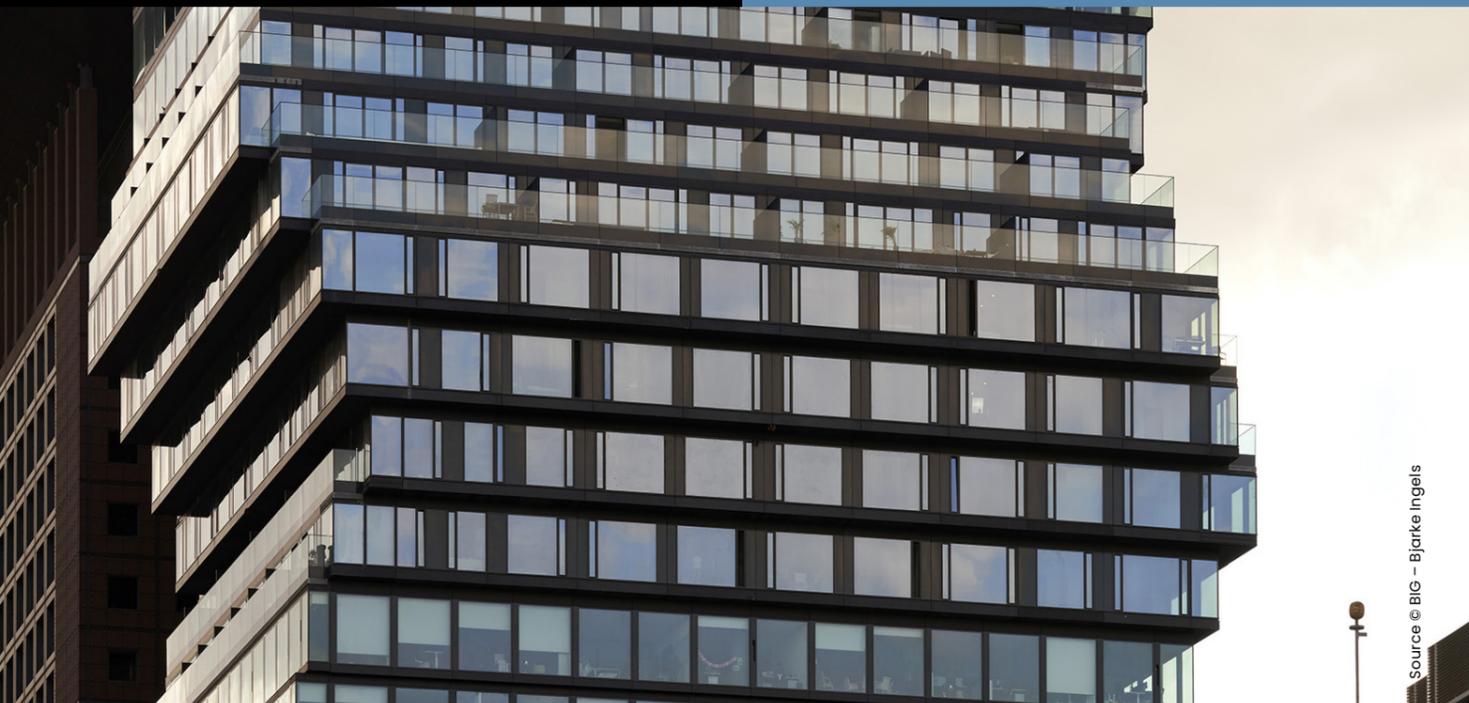
Ingo Langner, Technical Manager  
at Tishman Speyer

## ► Temperature is highly subjective

The building technology required to heat and cool the apartments in the "hip swing" had to be seamlessly incorporated within the overall concept. These eight storeys accommodate a total of 147 apartments measuring between 25 and 150 square metres. Each tenant has their own set of requirements: "After all, what constitutes an agreeable ambient temperature is highly subjective," remarks Langner. "We needed a system with which we could offer occupants maximum flexibility in terms of setting their desired ambient temperature." The technology expert from Tishman Speyer also emphasises that the dimensions of the system played a crucial role when it came to choosing the right supplier: "We do, of course, have to think commercially when letting the apartments. Every square metre lost means a drop in rental income," points out Langner.

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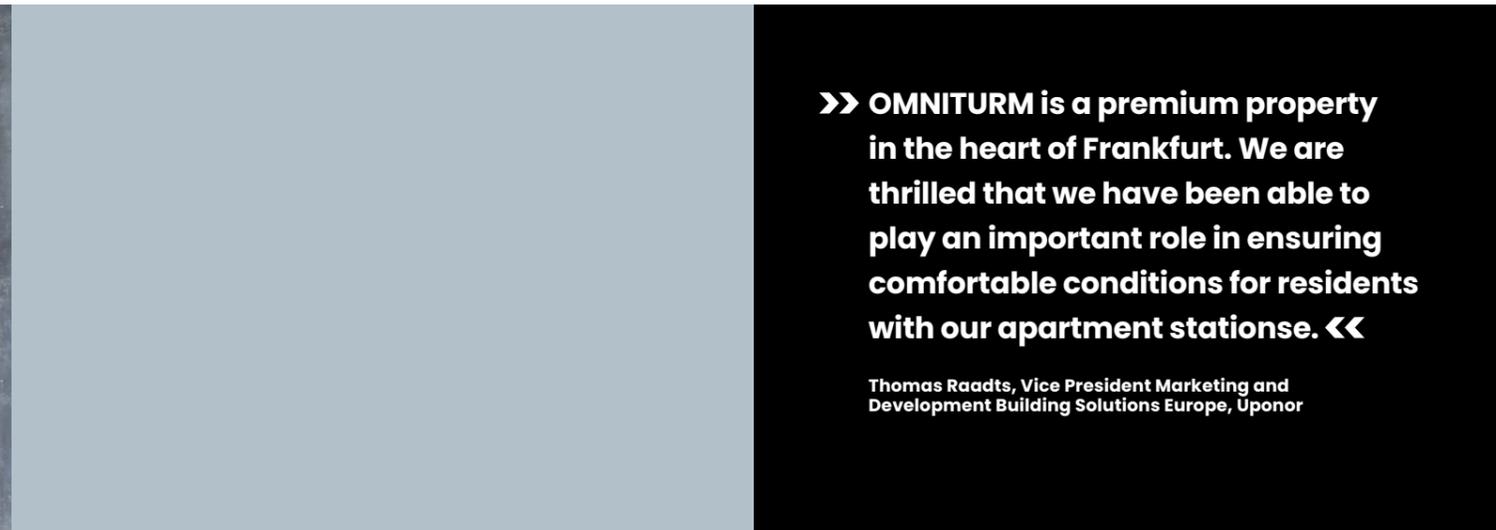
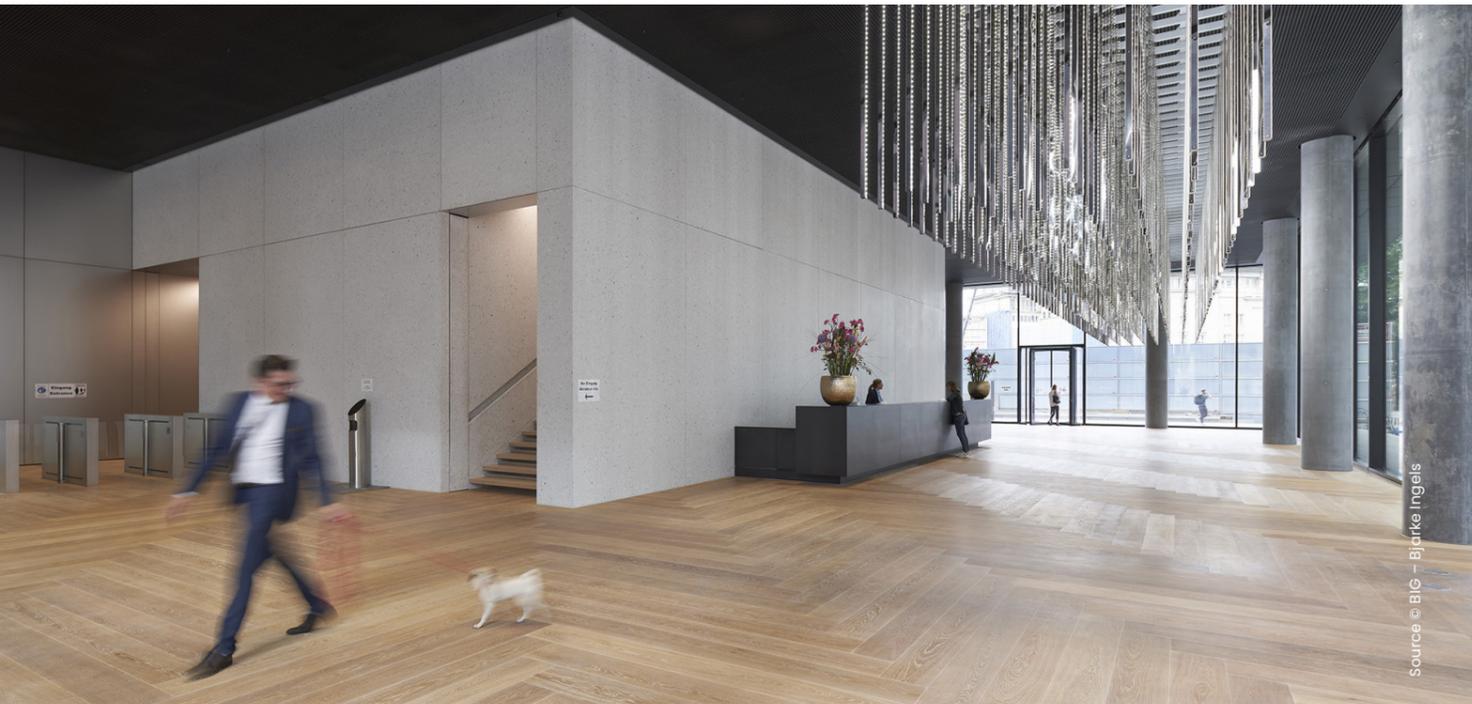
Ingo Langner



Source © BIG - Bjarke Ingels

Uponor devised a concept for compact heat interface units in the apartments, thus winning the contract. They use a district heating connection, with cooling provided via cooling units. The stations are fitted with a heat exchanger for cooling, as well as one for heating and one for hot water generation. This enables needs-based energy distribution for each user. Six-way ball valves prevent mixing between the heating and the cooling sides. An underfloor heating system heats in winter and cools in summer, whereas hot water is generated using the exceptionally hygienic continuous-flow principle.

Tobias Schwarzer and his team, from specialist heating contractor Klum in Bad Camberg, were behind the seamless and efficient installation. Uponor assembled each of the stations in a mirrored configuration, enabling the specialist installers to connect them in an alternating formation on both sides of the rise pipe. At the same time, Uponor met the need for maximum compactness with the apartment stations, which are installed within a tight space of 850 mm (w) x 1,800 mm (height) in the rental apartments.



## ► Easy installation and maintenance

The desired ambient temperature can be easily adjusted at the push of a button – and the same applies when switching from heating to cooling mode. This ensures maximum convenience. A decentralised hot water supply is also extremely efficient because it can run on lower temperatures in the distribution system compared to a centralised supply, which saves energy and lowers costs.

The client was also impressed with installation and maintenance; Uponor supplied all apartment stations in a completely pre-assembled condition, and with fully wired-up control units, ready for flush-mounted installation. “This was worth its weight in gold, as the assembly time was considerably reduced,” explains Ingo Langner.

## ➤ Completely satisfied

Decentralised systems also offer advantages in terms of maintenance, as faults can be quickly identified and resolved. "However, there have been no significant outages thus far," notes Ingo Langner. The apartment stations have been working perfectly ever since they were installed. He is completely satisfied with the systems provided by Uponor. And Thomas Raadts, Vice President Marketing and Development Building Solutions Europe at Uponor, is delighted by the praise received: "OMNITURM is a premium property in the heart of Frankfurt. We are thrilled that we have been able to play an important role in ensuring comfortable conditions for residents with our apartment stations."

### Project information

- Location: Frankfurt
- Country: Germany
- Website: <https://www.omniturm.de/>
- Completion: 2019
- Project type: New building
- Building type: Skyscraper, mixed use

### Project participants

- Building owner: Tishman Speyer  
<https://tishmanspeyer.com/>
- Architect: Bjarke Ingels Group  
<https://big.dk/>
- Installation: Klum GmbH, Bad Camberg  
<https://www.klum.de/>





Thomas Raadts, Vice President  
Marketing and Development  
Building Solutions – Europe at Uponor

Ingo Langner, Technical Manager  
at Tishman Speyer

**Thomas Raadts:** What was particularly important for you in terms of the stations' design?

**Ingo Langner:** We were looking for a combined heating/cooling station with built-in hot water generation – and able to fit within the smallest of spaces. After all, every square metre lost means a drop in rental income. Each station comprises heating and cool air supply, a heat exchanger for cooling, one each for heating and hot water generation and various pumps. We consciously decided against central hot water generation; a decentralised system offers reliable protection against legionella and enables excellent hot water availability. In terms of the underfloor heating, we use the same control circuits for cooling in summer and heating in winter.

**Thomas Raadts:** What was your experience of installing the apartment stations?

**Ingo Langner:** The apartment stations were delivered to the construction site fully pre-assembled and wired-up by Uponor. This was worth its weight in gold, as the assembly time was reduced dramatically. The stations merely had to be installed within the recesses, and the pipes attached to the relevant connections – and the stations were ready for use.

**Thomas Raadts:** Mr Langner, thank you for the interview and for sharing your experiences.

Expert talk with  
Thomas Raadts and Ingo Langner

## ➤ Interview: „Comfortable conditions for each tenant“

**Thomas Raadts:** Mr Langner, what challenges did you set in terms of the heating, cooling and hot water generation technology at OMNITURM?

**Ingo Langner:** It was crucial to us that each tenant in the building was able to individually control the ambient temperature in their apartment. OMNITURM is an extremely modern and sophisticated property – and this feature is pretty much a basic requirement for properties of this kind.

**Thomas Raadts:** What role is played by the heating technology and, in particular, the individual configuration options when it comes to letting the apartments?

**Ingo Langner:** This is a vital aspect. Such sophisticated properties have to be particularly closely geared towards tenants' personal requirements – and this is all the more true of HVAC technology. Each tenant has to be able to create their own comfortable conditions.

**Thomas Raadts:** How satisfied are you with the reliability of the apartment stations?

**Ingo Langner:** We are delighted. After 18 months of operation, we have still not witnessed any notable outages. What's more, our technical support team is on hand if tenants have any questions about how to use the stations.



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# Moving > Forward

Uponor is a leading international provider of solutions that move water for buildings and infrastructure. We're rethinking water for future generations with our safe drinking water delivery systems, energy-efficient radiant heating and cooling systems, and reliable infrastructure solutions. With a commitment to sustainability and a passion for innovation, we're developing new technologies and systems that build confidence and enrich people's lives.

That's moving forward.  
And that's what Uponor is all about.

# uponor

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