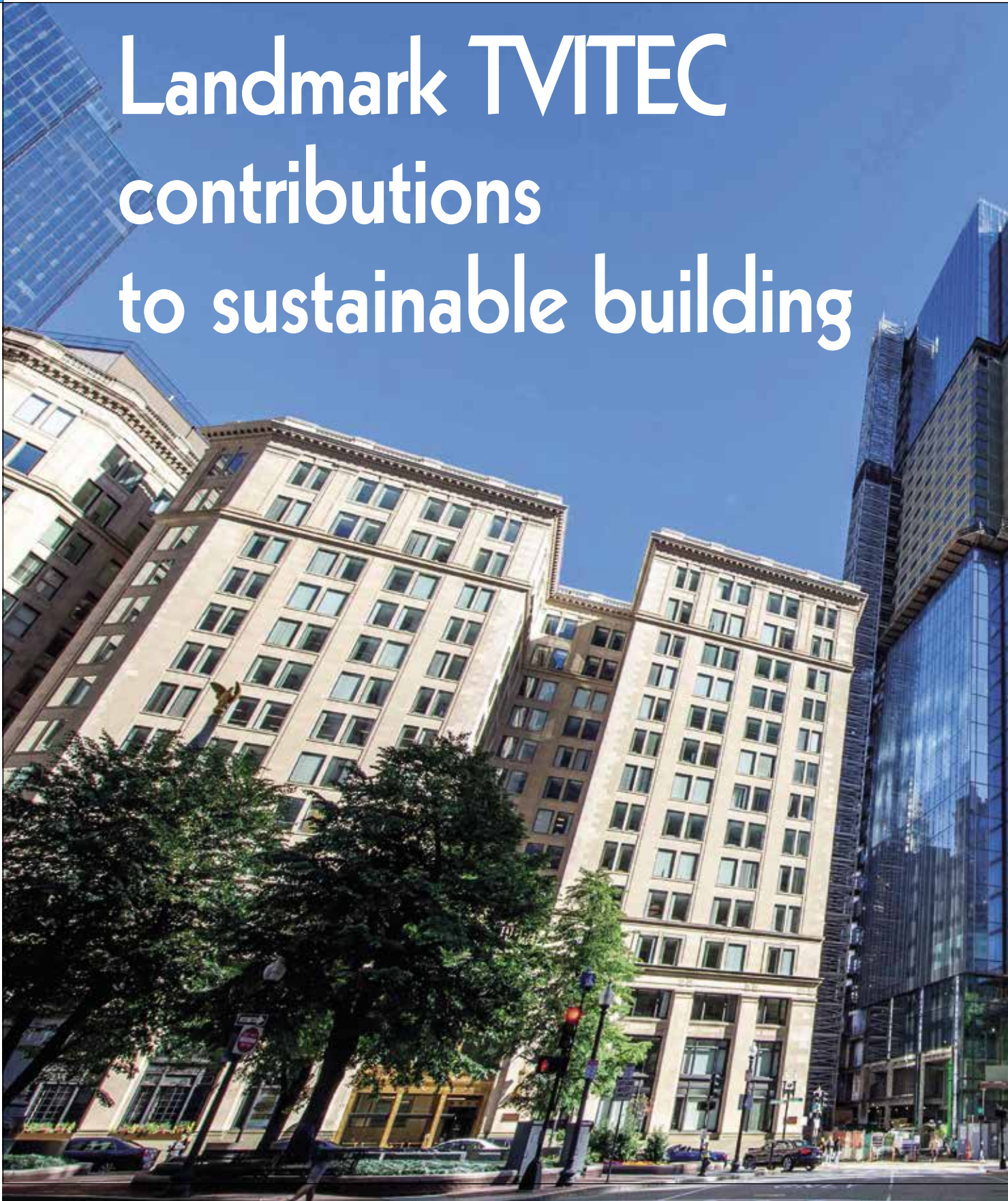


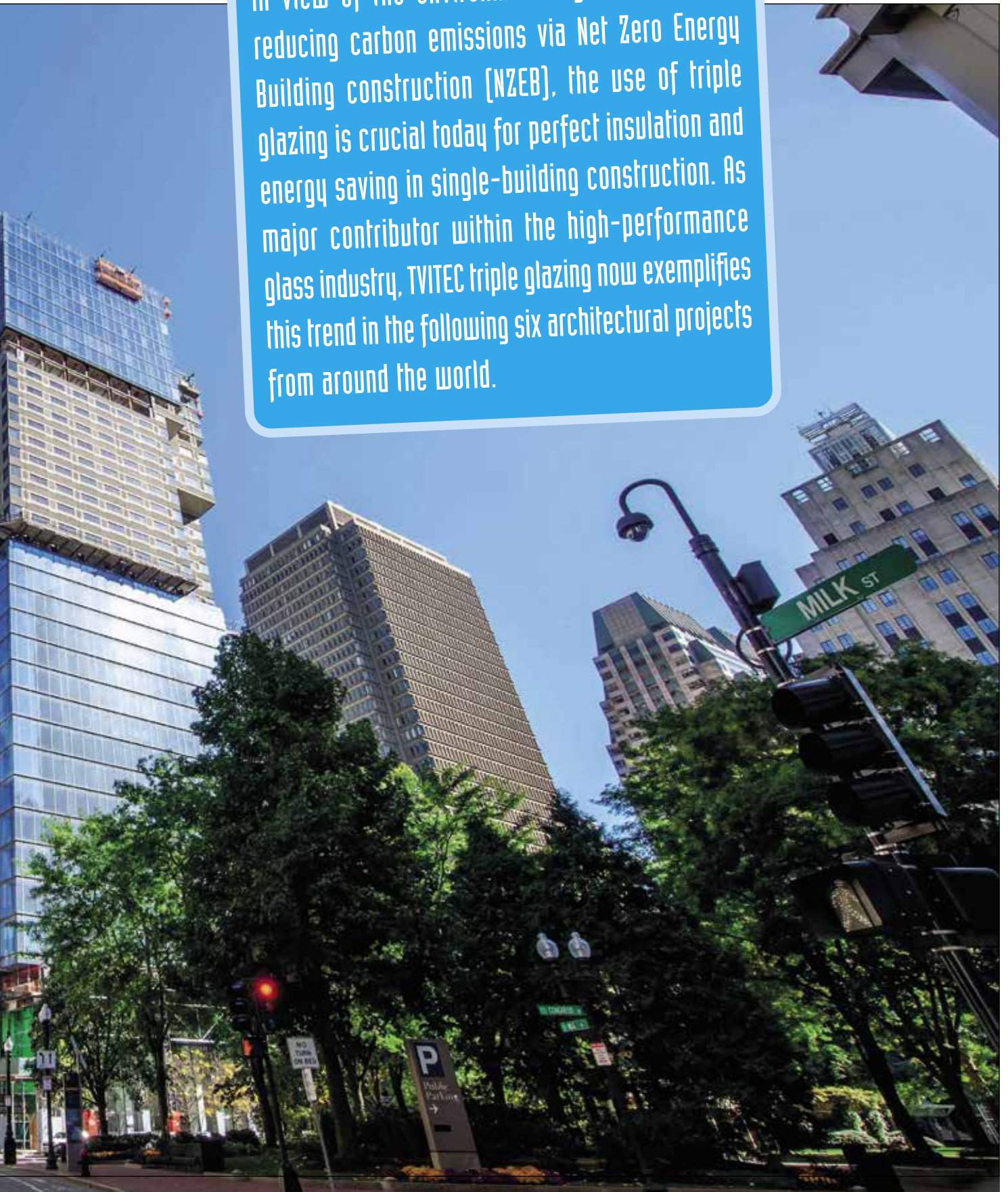


NET ZERO TRIPLE GLAZING

Landmark TVITEC contributions to sustainable building



In view of the environmental goal of globally reducing carbon emissions via Net Zero Energy Building construction (NZEB), the use of triple glazing is crucial today for perfect insulation and energy saving in single-building construction. As major contributor within the high-performance glass industry, TVITEC triple glazing now exemplifies this trend in the following six architectural projects from around the world.





1. MACKIMMIE TOWER. CANADA'S LARGEST NET ZERO CARBON BUILDING

Located at the centre of the University of Calgary's library complex, the design of this tower by Dialogue Architects studio renders the building 85 per cent more energy efficient than its original - making it the first in Canada to receive Zero Carbon Building certification. Here Tvitec supplied over 5,000 metres of triple glazing for its client Ferguson Corporation, with each unit tempered

and heat-strengthened for maximum safety and security and incorporating Guardian Climaguard high-performance coatings. The building also stands out for the unique shapes of its façades, with Tvitec continuing to manufacture triple glazing insulation for the ongoing expansion of this superproject.

2. ECAVENIR. SWITZERLAND LEADS THE WAY IN TRIPLE GLAZING USE

Given both the climatic conditions and the coun-

try's general environmental awareness, many projects in Switzerland rely heavily upon triple glazing to complete such buildings as that of ECA's headquarters in Lausanne. The offices of the Vaud canton fire insurance consortium include geothermal heating, breathable façades and roof solar panels. The space is clad with over 3,500 metres of Tvitec triple glazing, which was designed by Architram Architecture et Urbanisme. Overseeing installation of the façade was Sottas - with the glass, tempered and laminated, combining

Low Iron and a IPlus Top 1.1 solar control layer from AGC, all ensuring natural light, solar absorption and high insulation.

3. ONE POST OFFICE SQUARE. BOSTON'S GAME-CHANGING OFFICE TOWER

Now with its refurbishment nigh completed, One Post Office is already attracting attention in Boston thanks to its elegant aesthetics and eco-efficient, sustainable design. Here Tvitec manufactured nearly 30,000 metres of architectural glass for façade specialist

Benson, most of which was triple glazed, tempered and heat-strengthened as well as coated with Guardian HP Neutral and HP Silver 43/31. Not only. Tvitec also incorporated screen printing into much of the project. Following the design of architecture studio Gensler, the floor-to-ceiling glass captivates major firms today, boasting the highest LEED environmental certification available as each seeks to establish its workplace within this centrally-located skyscraper - also given its comfort and energy efficiency.

4. INFINITY. INTEGRAL INSULATION WITHIN THE GRAND DUCHY

Located in the centre of Luxembourg, the Infinity complex office centre was supplied by Tvitec with a large volume of triple

glazed units, each one of tempered and laminated glass and featuring acoustic Pvb besides. Apart from the thermal insulation of triple glazing, the building project is set with maximum security and almost complete noise mitigation. Here Tvitec supplied its top-grade insulating glass for Italian façade specialist AZA, with the building project partly completed by the firm Kyotec. The design of Infinity's was a joint work of Arquitectonica and M3 Architects studio. The use of quality materials, systems and highly sustainable networks have all earned this residential, commercial and office complex a BREEAM Excellent rating.

5. GRAND MORILLON. KENGO KUMA'S COMPLETE STUDENT RESIDENCE

In Geneva, Kengo Kuma

BETTER WITH TRIPLE GLAZING

Not surprisingly, thermal performance is the most significant. In some regions it may be worthwhile to install triple glazing in order to reduce heat loss and increase temperature of the inside panes. In general, triple-glazed windows improve comfort, reduce condensation and minimize noise. Indeed, its temperature coefficient of resistance (R-value) is much higher than that of double glazing. This partly explains why triple-glazed products can be up to 50 per cent more efficient than their double-glazed counterparts. Triple glazing is also very heavy, which requires strong, specially-designed window profiles to support its weight – failing which, window lifespan could be reduced.





NET ZERO TRIPLE GLAZING

has designed a student residence that's state-of-the-art in every sense of the term. The prestigious Graduate Institute opted for a concept that is simple in design yet complex in its execution. The residence's metal façade of large shutters surrounds both its 700 rooms and multitude of communal spaces. Tvitec's triple glazing for façade specialist Sottas allows maximum natural



light to enter the building as well as full indoor climate control, especially in winter. Tvitec supplied around a thousand metres of glass for the project, half of which was triple-glazed, tempered and laminated with a unique solar control coating from Glastroesch, namely Combi Neutral 61/32 with Low Iron. Laminates were also produced for large balustrade areas.

6. HAREN PRISON. BULLET-PROOF

GLASS REPLACING BARS AND MAXIMUM ECO-EFFICIENCY

Haren prison in Belgium will soon be welcoming its first inmates who, with glass replacing bars on the outside of its cells, will get to experience an alternative prison concept. However, being BR6-certified as well as tempered and laminated, this isn't simply any glass. It's resistant to repeated, close-range impact from assault rifles. Here Tvitec's bullet-proof glass is incorporated into the triple glaz-

ing supplied for Spanish façade specialists Proinller and Ferga, who have been working for construction company FCC. Almost 4,000 metres of these insulating glass units were manufactured by Tvitec, each one boasting a truly impressive thickness. Sustainable too, the glass will cool or heat the entire prison complex, since it's coupled with such systems as geothermal storage.

TRIPLE GLAZING ADVANTAGES

1. Can reduce heat loss in homes, leading to potentially lower energy bills;
2. More efficient at heat retention than double glazing, thereby yielding warmer spaces;
3. Less prone to condensation build-up between the panes than double glazing;
4. Harder to break, resulting in safer buildings;
5. The extra glass pane blocks out more outside noise than double glazing.

Tvitec System Glass



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