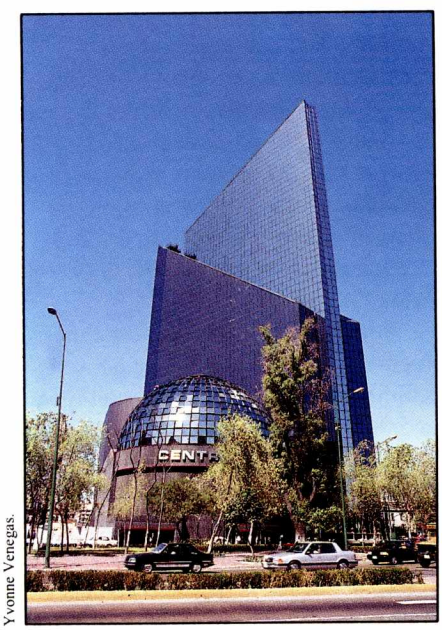
Intelligent buildings in Mexico

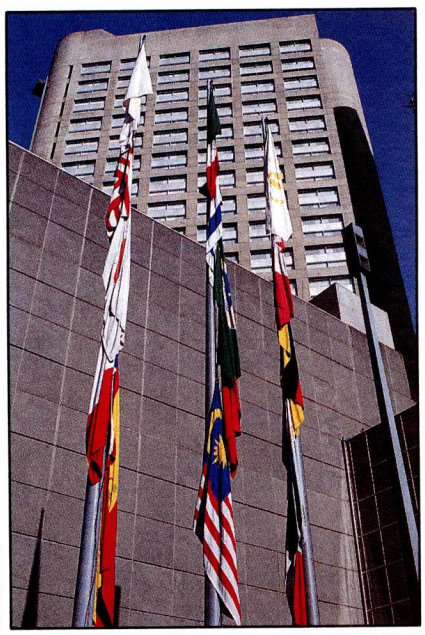
Technology has found its way into all the details of modern life. One of its most recent applications is intelligent buildings, with their sophisticated systems for preventing accidents such as electrical faults, earthquake damage and fires, as well as robberies. These systems contribute to savings of up to 60% of electric and hydraulic energy as well as recycling water through treatment plants.



Yvonne Venegas.

The Mexican Stock Exchange is being upgraded.

As a result of the search for alternative solutions in accordance with growth standards in the world's largest cities —such as New York, Tokyo, Hamburg and others— the concept of intelligent buildings emerged in Mexico in November 1991, together with the foundation of the Mexican Institute of Intelligent Buildings (IMEI).



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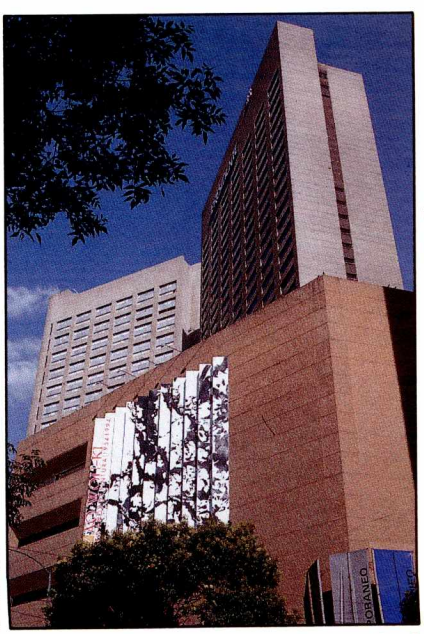
Recycling water in hotels is indispensable nowadays (front view of the Hotel Nikko).



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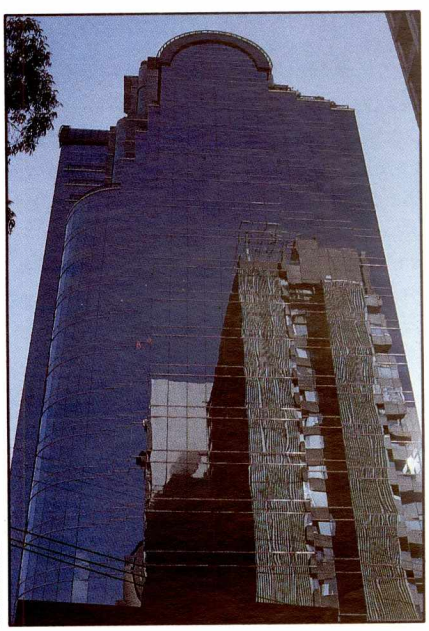
Museum of Contemporary Art (front), Hotel Presidente (left) and Hotel Nikko (right).

IMEI chairman Jorge Martínez Anaya describes intelligent buildings as those based on a bioclimatic design, with a "brain" made up of digitalized and automated systems that permit rational and appropriate land use, optimizing both space and resources.

Although intelligent buildings imply 5% higher investment costs than traditional buildings, they have automated security systems and an entire floor for the control of indoor



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A long-term project for Latin American countries.

wiring, ducts and service machinery, and a balanced distribution of features permitting maximum use of natural and artificial lighting —not forgetting aesthetics, comfort and low maintenance costs.

The concept of intelligent buildings originated in countries such as Japan and the United States in recent decades, owing to the abundance of

financial resources. For Latin American countries, this style of construction is still a long-term project, but one that is slowly becoming a reality in Mexico.

Héctor González Reza, secretary of *UNAM*'s Institute of Engineering, considers the systems used in intelligent buildings to be mechanisms that prolong the useful life of any construction, providing additional benefits for users that offset the cost of investment.

A key factor justifying the construction of these buildings in Mexico is their ability to adapt to the characteristics of the subsoil. There are already plans to use this new technology in the construction of offices, restaurants, hotels, lecture halls, auditoriums, schools, hospitals and telecommunications centers for urban and rural areas.

For Enrique Sanabria Atilano, of Mexico's College of Architects, intelligent buildings solve a common problem in tall buildings: fires. Before the emergence of this new concept, he explains, service areas, stairs and elevators in high buildings were often inappropriately located in the center of the building, becoming deadly traps in the case of an emergency.

Buildings such as the Torre Chapultepec, the new headquarters of the Mexico City Industrialists' Club (the Sierra Building), Mexico's World Trade Center, the Hotel Nikko, Hotel Marquíz Reforma, the Four Seasons, the Mexico City, Monterrey and Guadalajara Hilton hotels, the Alameda, Santa Fe and Corredor Reforma projects and soon the Torre Aguila, Reforma II and other corporate buildings will lead the field in the implementation of systematic building technology.

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Intelligent buildings have higher investment costs but incur lower maintenance expenses.

The purpose of the "brain" located in each building is specialized control of functions such as the use of ventilators, the opening and closing of windows, and the regulation and programming of continuous lighting.

This concept also involves the use of various types of computerized networks, video cameras and audio networks, while eliminating impractical methods such as drilling through tiles to install double outlets in the floor, etc.

Martínez Anaya points out the importance of distinguishing between buildings which are already intelligent and those with plans to become so. Some buildings, such as the one housing the Mexican Stock Exchange, are currently being upgraded to meet today's technological demands.

If Mexicans realize that it makes little economic sense to invest in poor-quality, short-lived buildings which lack ideal functioning systems, says Martínez Anaya, we will soon have the perfect means for regulating growth in large cities.

Integrating modern technology into the design of its buildings will place Mexico at the forefront of the construction of intelligent buildings in Latin America

Arturo Piera.

These buildings contribute to savings of up to 60% of energy (view of the Hotel Marquíz Reforma).

Fernando Del Rivero

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