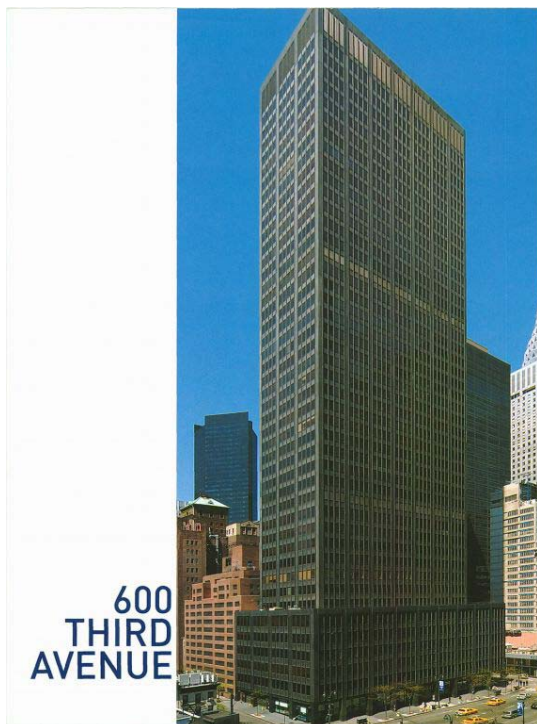


# 600 3<sup>rd</sup> Avenue Building, New York City, USA

**osmos**

Integrated safety for structures



Accelerometer on a steel post

## Monitoring of a building with excessive lateral loads

### Client

LZA Technology

### Structure

32 Story Building, New York City, USA  
Steel structure

### Context

The structure experiences excessive drift and lateral movement. These in turn caused problems with the connections of façade elements and major cracks in non structural masonry walls. The building changed hands and the condition of the new mortgage required that the building be monitored and that the behavior of the structure be analyzed so that remedial measures can be undertaken if necessary.

### Client's Needs

A structural analysis revealed that the structure is designed adequately for strength but may be too flexible for lateral loads thus causing distress to non structural elements by submitting its structure to surveillance.

The client wishes to collect enough data for the behavior of the structure to understand its dynamic characteristic and to determine if any remedial program needs to be undertaken.

### Instrumentation Installed

- 2 Optical Strands
- 3 biaxial accelerometers
- 1 wind gage
- 2 temperature sensors
- 1 monitoring station

### Initial Results

The ability to trigger dynamic recording using the external sensors has enabled to capture the building accelerations under winds in excess of 25mph. The building period was established. Also captured were the behavior of the structure under temperature changes and the inter story drift was quantified

### Client Benefits

The ability to collect this data remotely and the availability of a continuum of data is one of the benefits. The Osmos system also will facilitate the decision as to what system to install to reduce the building flexibility and will enable monitoring the effectiveness of the remedial work.



Wind gage (Speed and direction) on the roof



Optical Strand on a beam at a technical floor

