



Carnival Cruise Terminal F



AMTS and Vibration Installation



2020 - 2021



Miami - Dade County
Lemartec

2

AMTS (Cyclops)

2

Vibration Sensors
(Syscom)

120

Prisms

CARNIVAL AND PORT MIAMI BREAK GROUND ON TERMINAL F

The construction of the Port of Miami Tunnel project broke ground in May 2010 and was complete in May 2014. The Design and Build Contractor excavated twin tunnels connecting Watson Island and Dodge Island in the City of Miami using a Tunnel Boring Machine (TBM). During that time, Sixense was selected to monitor the buildings and surrounding structures during the tunnel construction. The Port of Miami has seven operational cruise terminals, with four more undergoing renovations or construction, including Terminal F. The estimated cost of the renovations is \$170 million and the completion is scheduled for October 2022. This terminal will be Carnival's third and largest Miami cruise terminal and its proposed opening will mark Carnival's 50th anniversary.

AUTOMATIC MONITORING SYSTEM

Sixense was selected for the second time to monitor the alignment of the twin tunnels during the renovation of Terminal F at Carnival Cruise. The monitoring allowed construction to be completed safely since twin tunnels were built beneath it.

Our approach was based on the use of an Automated Motorized Total Station (AMTS) system to monitor any deformations in the two existing sections listed in the specifications. Sixense installed optical/laser prisms for the AMTS monitoring to measure potential deformation with at least 5 points on the interior of the tunnel lining at the tunnel station corresponding to the building section with the greatest coverage over the tunnels. A second instrumented section was placed 100 ft. from the limits of construction in the tunnel to provide a reference baseline.

Sixense used its data management software Geoscope, which allows 'real-time' data processing, digital transmission and display of any structural movement.

