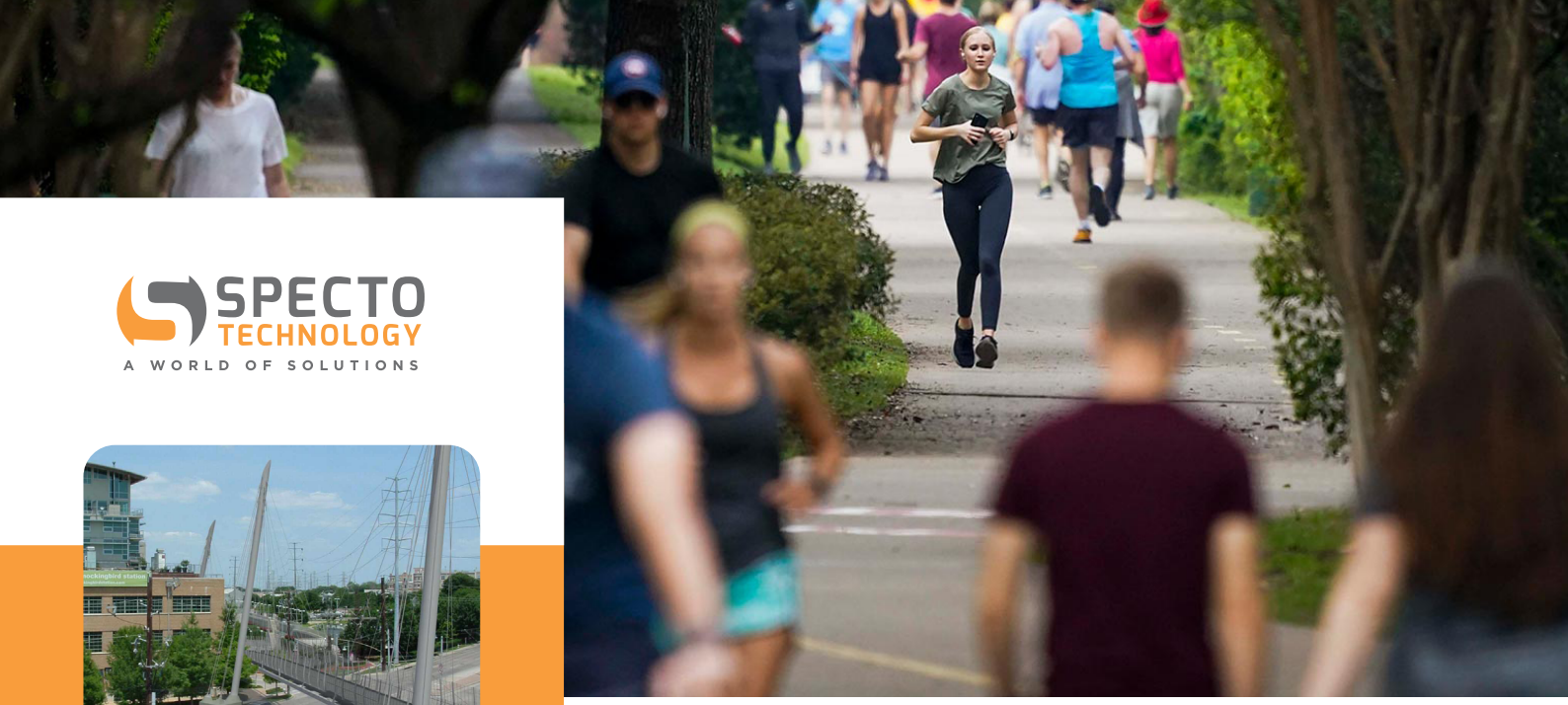

SPECTO TECHNOLOGY
A WORLD OF SOLUTIONS

PROJECT
Katy Trail Project

APPLICATION
Remediation

SCOPE
Deliver a unique hardware and software monitoring solution for the transition of land from old Railroad grounds to a jogging, walking, inline skating, and bicycling path. Specto Technology supplied state-of-the-art monitoring products including crackmeters, tiltmeters, wireless dataloggers and ARGUS software for implementation in the field.

EQUIPMENT AND SERVICES
Crackmeters, tiltmeters, wireless dataloggers and ARGUS software

SUPPLIER
Specto Technology

DATE
2017

Katy Trail Project

The Katy Trailis a jogging, walking, inline skating, and bicycling path that runs through the Uptown and Oak Lawn areas of Dallas, Texas, following the path of the old Missouri-Kansas-Texas Railroad, which was known as MKT or the Katy. The construction work to convert the unused 3.5 miles railway track into a hiking trail took place between 2000 and 2007. Since completion, it has been expanded several times and is currently on final extension phase (Phase VI). The Phase VI is 0.65 miles long, includes 2 pedestrian bridges and the estimated cost is $14.1 million. Phase VI construction started in October 2015 with a completion date of January 2017.
Unique engineering designs and monitoring for the project is required due to the fact that one of the bridge (over Mockingbird Lane) sits atop a DART tunnel. A cantilevered suspension bridge design had to be utilized to push the bridge foundation away from the tunnel. The instrumentation and monitoring scheme, designed and carried out by HNTB and Rebcon Inc., consists of the following instruments, dataloggers and software:

20 crackmeters are installed inside the DART tunnel

- They are used to monitor movements across the existing cracks in the tunnel lining

VW crackmeters

- 11 uniaxial tiltmeters are installed on retaining structures in the portal area and along the trail
- They are used to monitor the rotation of the retaining structure

MEMS tiltmeters

- The LS-G6 system was selected due to its long range radio, low power consumption, easy implementation and because it's capable of working inside the tunnel
- The system consists of one gateway, 11 nodes for the MEMS tiltmeters and 5 nodes for the VW crackmeters
- The system collects readings automatically and wirelessly from the crackmeters and the tiltmeters

LS-G6 wireless data logging system

- 92 prisms were installed in and outside the DART tunnel, monitored by manual optical survey

Deformation monitoring points

- Used for web based management and reporting of data from all automated instruments and from manual optical survey.

Argus software

- Used for web based management and reporting of data from all automated instruments and from manual optical survey.

Specto Technology supplied crackmeters, tiltmeters, wireless dataloggers and the Argus software to the project, as well as providing technical supports to Rebcon Inc. relating to the installation and commissioning of all automated instruments.