

Urban Planning: Tracking Transportation Infrastructure Construction

OneAtlas Case Study | Living Library



Challenge

Construction of massive transportation infrastructure projects is occurring so rapidly that engineering firms need a safe, cost-effective and comprehensive means of tracking progress. Nowhere is this challenge better illustrated than Austin, Texas.

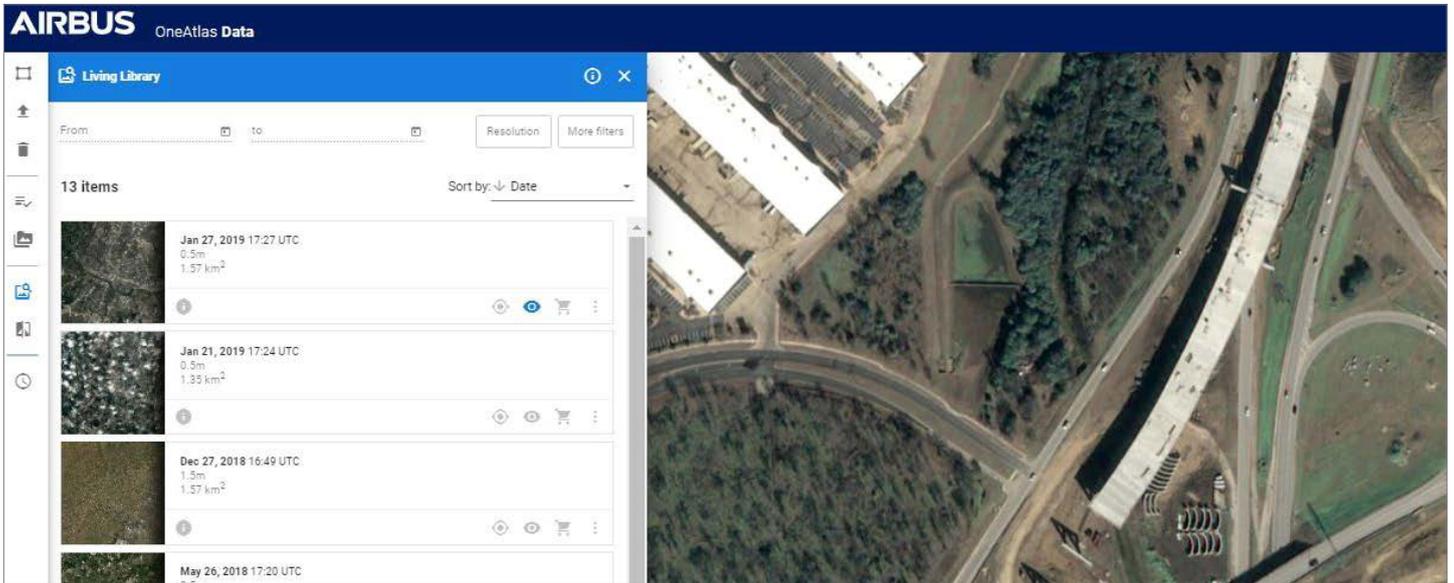
Solution and Results

Living Library gives engineering firms immediate and affordable access to recently acquired high-resolution imagery, providing a more comprehensive perspective than aircraft or drones.

Benefits

Access to Living Library imagery is fast, easy and affordable with selected data streamed or downloaded into most GIS/digital mapping environments.

In the Austin example, Living Library contains multiple archived images that can be used to track the progress of transportation infrastructure construction.



The OneAtlas data interface shows imagery available over your area of interest.

Challenge

Rapidly growing infrastructure projects such as the Hwy 183/71/Airport Blvd interchange upgrade between Austin, Texas, and its airport can't be tracked from the ground.

Construction of new lanes, overpasses, and exit ramps is proceeding at varying rates throughout a busy area.

Engineering firms need to track progress at multiple phases for many applications:

- Validating construction milestones are reached on specific dates
- Ensuring correct materials are stored onsite and ready to use
- Detecting anomalies, such as construction outside the right of way
- Tracking change over time
- Staging crews and equipment to arrive promptly for the next phase of work.

This information can't be provided efficiently, comprehensively or cost effectively with drones or aircraft.

Solution and Results

Through OneAtlas, engineering firms now have instant access to recently acquired very high-resolution imagery that can be obtained immediately with flexible purchasing options.

Living Library is a cloud-based Earth observation satellite data service comprised of global data layers and fresh acquisitions of 50cm-resolution Pléiades and 1.5m SPOT imagery filtered for quality. Pléiades data has a maximum cloud cover of 15% with an incidence angle not exceeding 30 degrees. For SPOT, the parameters are 5% and 20 degrees.

New data is added daily, and subscribers will soon be able to request alerts when their area of interest (AOI) is covered with a new acquisition.

Living Library images offer high resolution to view small details, such as earth-moving equipment, while providing a broad-area perspective to track overall progress at a large construction site, like Austin's impressive Hwy 183/71/Airport Blvd interchange redesign.

Solution Description

Engineering personnel can access recently acquired Pléiades and SPOT imagery of their AOI, no matter how small, from inside their GIS software to view and measure most changes in project status.

In the Austin example, multiple satellite images of the interchange area are instantly available in Living Library.

Engineering firms, as well as governmental agencies, involved in all phases of planning, building and monitoring transportation construction projects can benefit from subscriptions to the OneAtlas Living Library.

“ A quick check of the Living Library online portal shows that multiple Pléiades and SPOT scenes less than two years old are available now to track the progress of the transportation infrastructure construction project near the Austin airport. ”

Benefits

- In any phase of a large transportation infrastructure project – from planning to construction to completion – engineering firms have instant satellite image access to safely monitor progress and status.
- Ability to monitor the construction and surrounding area.
- In the Hwy 183/71/Airport Blvd use case over the Colorado River near downtown, satellites also provide

the ability to monitor the river and unforeseen impacts to the surrounding environment.