Case Study

Pixxures, Inc. and United Power

Overview:

United Power, a fast-growing electric co-operative, serves over 60,000 customers along Colorado's Front Range. The service territory extends from the mountains of Coal Creek Canyon and Golden Gate Canyon to the farmlands of Brighton, Hudson and Keenesburg, representing some of the most diverse terrain and ground cover found anywhere. United Power acquired newer and more accurate ortho-imagery to use with its current GIS data and discovered spatial inconsistencies between the imagery and the parcel and facilities data layers.

Challenge:

United Power found that the inconsistencies between its GIS data and the imagery presented challenges to the operations' personnel in locating and servicing the facilities, and therefore presented challenges in providing a higher level of service to its customers. Traditionally, the methods used to align data included manual intervention in the GIS and use of simple rubber sheeting algorithms. However, working with 150 data layers, they found that these methods were not only manually intensive and time consuming, but the results were often inconsistent and inaccurate. United Power estimated that it would have taken more than a year to achieve the accuracy needed using manual methods of correction and applying the solution to all 150 data layers. United Power knew there had to be a better, faster and less expensive solution to this problem.

Solution:

Pixxures, Inc. offered that solution with its LineWorks® service. Pixxures' found that by applying stand-alone software to adjust the cadastral layer visually to fit the recently acquired orthophotography, which was considered to be spatially accurate, the conflation would be completed in a much more time-efficient manner. Once this solution was created and applied to the cadastral layer, the identical solution could then be applied to the additional 149 layers without further manual intervention. The LineWorks mathematical models permit the operator to precisely control and define the adjustment to the imagery. Changing control points on one area of the dataset did not affect any other data nodes unless the operator chose to do so. Parcels were reshaped to fit the true shape on the ground.

The technology also allows a general shift and rotation to be applied across the entire project thus maintaining the area of a parcel while improving spatial accuracy. And with an on-the-fly conflation tool, the operator was also able to determine the effectiveness of each node and adjustment, reducing time in quality-control efforts as they are simultaneous with the initial adjustment.

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