

“Monolithic” structure for interoperability and data analysis

By Roger Clarke and Edward Deleon
AFCEC Geospatial Integration Office

“War is 90% information” – Napoleon Bonaparte.

Therefore, providing the right information in the right format at the right time to the right Airmen is critical to waging war effectively. To do so requires standards, including those for data.

Data standards provide a monolithic structure for the creation, integration and sharing of geospatial information across the Department of Defense. They enhance data integrity, accuracy and consistency, and enable sharing Combat Support geospatial data that is Visible, Accessible, Understandable, Linked and Trusted – or VAULT – for multi-domain operations.

The Air Force adaptation of DoD’s [*Spatial Data Standards for Facilities, Infrastructure and Environment \(SDSFIE\)*](#), created and managed by the AF GeoBase Program, form a foundation for powerful data analytics providing trusted insights for effective data-driven installation operations and investment decisions.

Adherence to these DoD driven standards directly affects the Air Force mission as quality outputs and their benefits are determined by quality inputs.

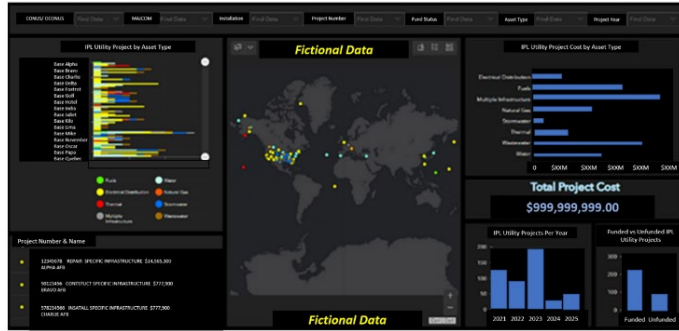
Real benefits

Cross-functional gains from integration of standardized Installation built and natural geospatial data with business data are not limited to any one function or domain. For example, AFCEC’s Real Property Office is one of the most recent benefactors of integrating business and geospatial data.

Combining a facility’s real property records with its spatial location opens the aperture to a more detailed asset accountability understanding by enabling comprehensive analysis across multiple information technology applications. Doing so allows civil engineers to see their data in new dimensions expanding their knowledge and improving AF real property accountability.

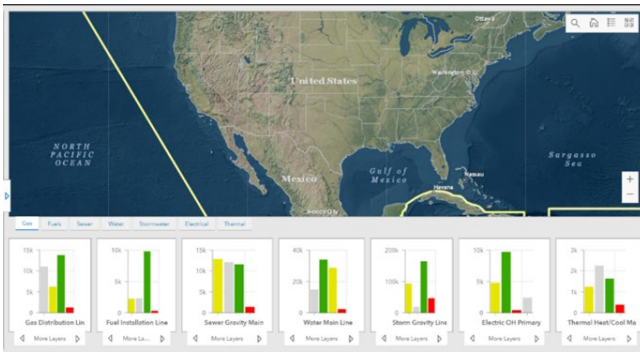
Collaborative solutions: Trusted data, integrated applications

AFCEC Real Property and Geospatial Integration Office (GIO) have expanded collaboration resulting in powerful real property geospatial asset accountability processes that improve enterprise data quality and applications for data-driven decisions. It includes the following:



AF Comprehensive Asset Management Plan (AFCAMP) Utility Dashboard: The AFCAMP Utility Dashboard contains all Air Force Installation Project List (IPL) utility data submitted for the years 2021-25 and provides visualization of condition index values. The collection of bar charts, color-coded graphics and enterprise mapping interface

provides a comprehensive interpretation of an installation's utility projects forecasts.



Utility Condition Index (UCI) Dashboard: The Utility Condition Index (UCI) Dashboard displays UCI values of installation utility systems that aide in project planning and verification. Each utility asset type (fuels, sewer, etc.) condition index – green, amber and red – clearly identifies at risk systems for future project planning.

UCI Web-Application Viewer: The UCI Web-Application Viewer displays enterprise wide Utility Condition Index (UCI) data for each utility system. Like the UCI Dashboard, this application displays select data, aggregated via bar-charts and color coding for linear assets within the viewer's current extent. Additionally, users can select an area of interest, run statistics, and print the selection to an excel file.

This tool can be used to aid installations generating IPL requirements and Sub-Activity Managers in validating IPL submissions.



Category Code Data Comparison: Comparing RPUID and category code values within the Real Property Asset Database (RPAD) and Enterprise geospatial database for linear segmented utilities data is a joint venture between the Real Property Accounting Offices and GIO. Once discrepancies are

identified, they work together to reconcile the data before uploading to the Operations Dashboard.

Standards and teamwork enhance readiness and lethality

SDSFIE assists the Air Force achieve the maximum effective range of its built and natural infrastructure geospatial data for business and combat support decisions. As proven by Real Property, compliance with data standards facilitates data integration, meaningful data exploitation and information dominance of a ready and lethal Air Force defending against near-peers today and in the future.

Teamwork to achieve positive effects of data that is VAULT begins with data standards development.

DoD SDSFIE evolutions, currently version 4.0.1., are a continuous process. Civil engineer functional experts are part of the development process by clarifying data elements that are critical to their mission.

Working together, these cross-functional standards will continue to enhance Air Force and joint forces data interoperability for missions at home and abroad.

For more information SDSFIE, geospatially enabled Real Property applications, or other Combat Support applications contact the AFCEC Geospatial Integration Office at geobasesupport@di2e.net.

When Location Matters- GeoBase!