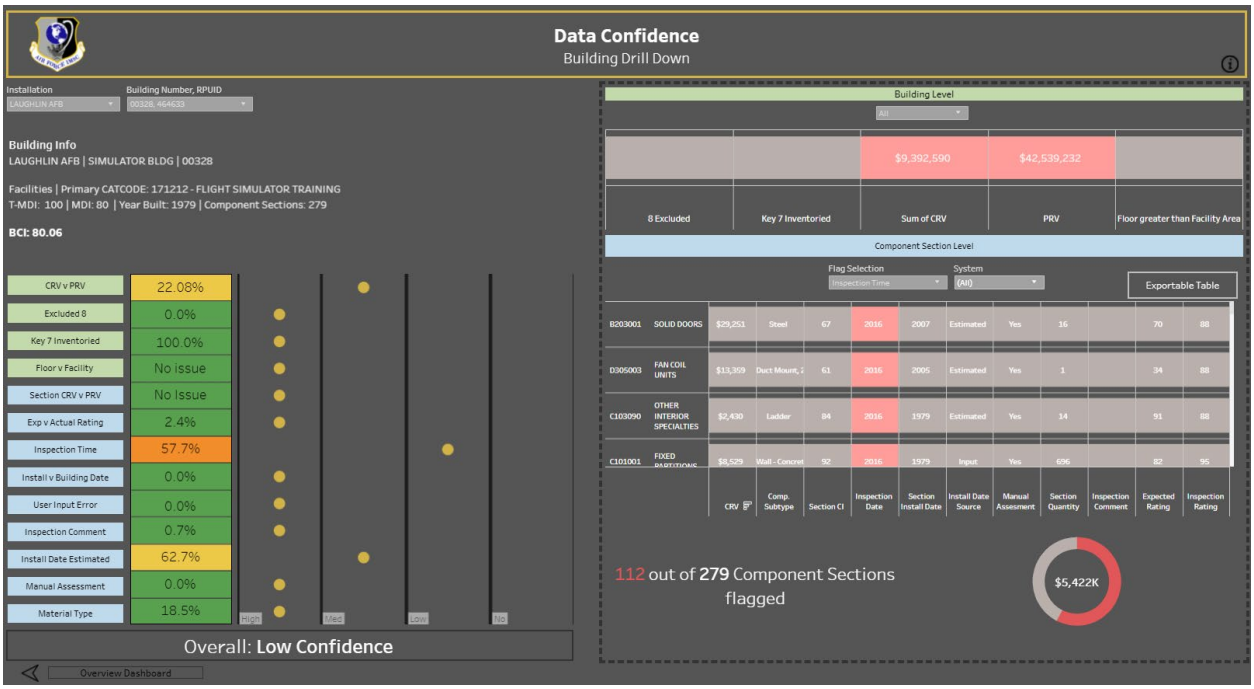

BUILDER Data Confidence dashboard pinpoints which AF facilities have good data

By Ben Graf

AFCEC Planning and Integration Directorate

Anyone who has interacted with BUILDER Sustainment Management System data has sensed the obvious potential. The Army-developed, OSD-mandated database's ability to track the condition of every facility in the Air Force down to individual components, to project how that condition will degrade over time, and to predict the costs needed to sustain and repair the facility, are powerful capabilities for asset management. Yet anyone who has interacted with BUILDER has also quickly realized this power is only effective if the data used to populate BUILDER is accurate. Garbage in, garbage out, as they say.

The fact is, BUILDER data is being used by decision-makers at all levels of the Civil Engineer enterprise on a daily basis. Even if some of the data is suspect, we should not throw out all of it. So how do we identify where we can trust the data and where we should exercise caution? That was the problem statement for the BUILDER Data Confidence Working Group, a team of Air Force Installation and Mission Support Center and AFCEC experts on BUILDER and data science, who developed the newly released BUILDER Data Confidence dashboard.

After all, expert BUILDER analysts can tackle this exact problem on a case-by-case basis. Present them with a building's data, and they can point to anomalies in the data that reduce their confidence in the accuracy of the Building Condition Index, or BCI, outputted by BUILDER. The Working Group adapted industry concepts to automate this expert skill for decision-makers

at all levels and summarize these anomaly lists with a simple confidence rating for a building's BCI of High Confidence, Medium Confidence, Low Confidence, or No Confidence.

This information is now available in a user-friendly dashboard on the Air Force VAULT for anyone with VAULT access. (The link is https://tableau.afdatalab.af.mil/#/site/AFIMSC/workbooks/1807/views.) There, users can filter the Overview page's list of 35,000 Air Force vertical facilities down to the installation, Category Code, or Mission Dependency Index, or MDI, tier they are interested in. Once they have honed in on a particular facility, they can jump over to the Drill Down page to see a detailed breakdown of the particular anomalies driving the calculated confidence level. Those anomalies fall into 13 types, as identified by Air Force BUILDER experts, and each type receives a confidence rating. The overall confidence in the BCI is then the worst offender of these 13 anomaly types.

No data entry occurs in the dashboard, and even those without BUILDER access can use it to dive into the intricacies of the authoritative database. That said, if a user's investigation uncovers data issues that need to be fixed they must go into BUILDER itself to make the changes. The Data Confidence dashboard is connected to three other Facilities Activity Management dashboards for full spectrum visibility of vertical assets.

Ultimately, the BUILDER Data Confidence dashboard is a guide, not a verdict on the data. It does not have all of the context a decision-maker uses, only what is contained within BUILDER. In addition, the confidence rating only refers to the likely accuracy of the BCI itself, not the confidence rating in a particular decision, such as whether to demolish, repair, or replace. Still, it can provide reassurance that the starting point for many decisions, the condition of the facility, is reliable, resulting in more confident decision-making.

If you would like to learn more about the BUILDER Data Confidence dashboard, please reach out to Ben Graf (ben.graf@us.af.mil) and John Glass (john.glass.1@us.af.mil) at the Air Force Civil Engineer Center (AFCEC/CPR).