

Owner/ Operator System Utilizing As-built/ Project Domains

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Overview

The INtools database is partitioned into several schemas: a single schema for AsBuilt and separate schemas for Projects.

This architecture allows us to perform plant modernization and changes in the Project schema without altering our AsBuilt or active database.

AsBuilt Database

Two examples of why the AsBuilt Database is required to stay accurate:

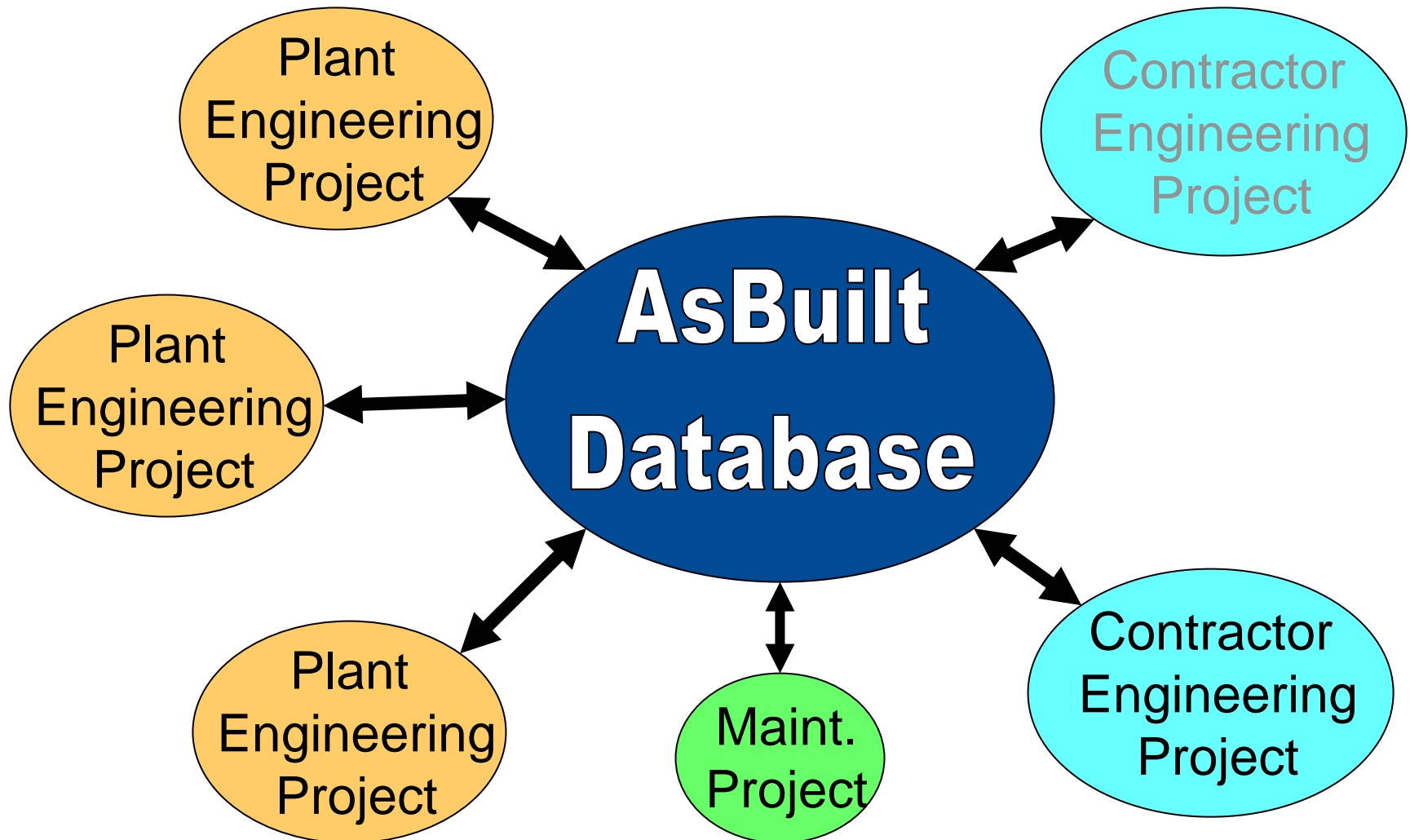
- **Troubleshooting plant problems**
- **Audits (OSHA, TNRCC, etc,)**

*Profits come from keeping the plants running.
This is much easier with accurate documentation.*

Project Schema

The Project Schema maybe used by either in-plant engineering, outside contractor engineering or a maintenance project you would like to keep separate from the live database.

Overview Graphic



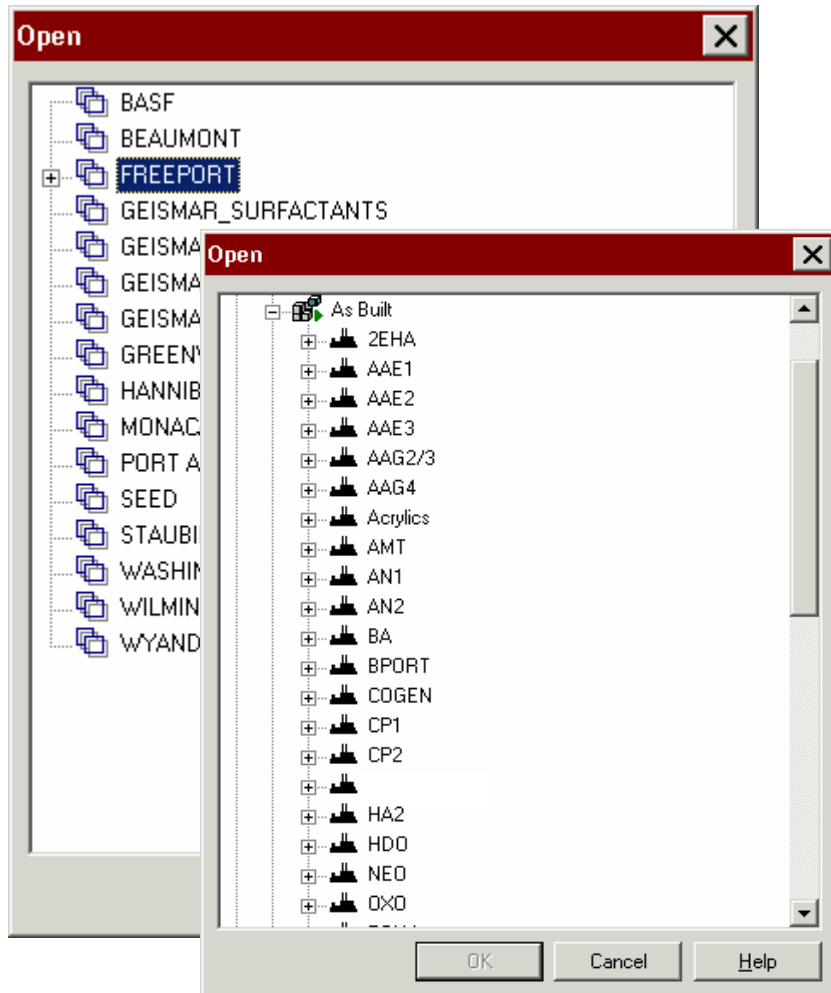
Benefits to a Project by Using the Project Schema

- **Saves manhours by optimizing reports for construction package. (Do not need to filter for cables, panels, etc. used in the project)**
- **Saves manhours if a project is cancelled. You just cancel the project instead of returning all documentation back in its original state.**
- **Allows for all as-built drawings to be reviewed and accepted prior to merging the project back into the AsBuilt Schema.**
- **Allows for the option of the project reviews to be done paperless prior to Issue for Construction.**

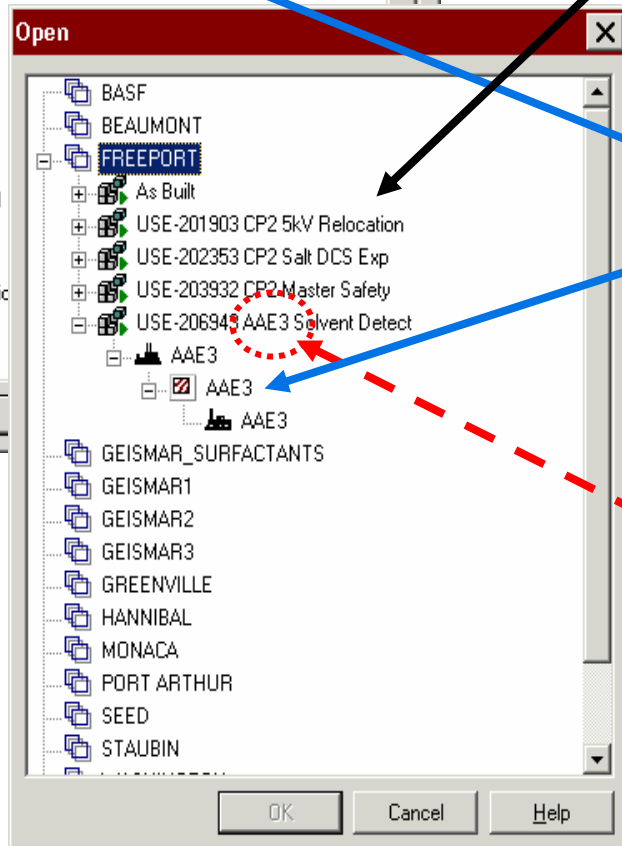
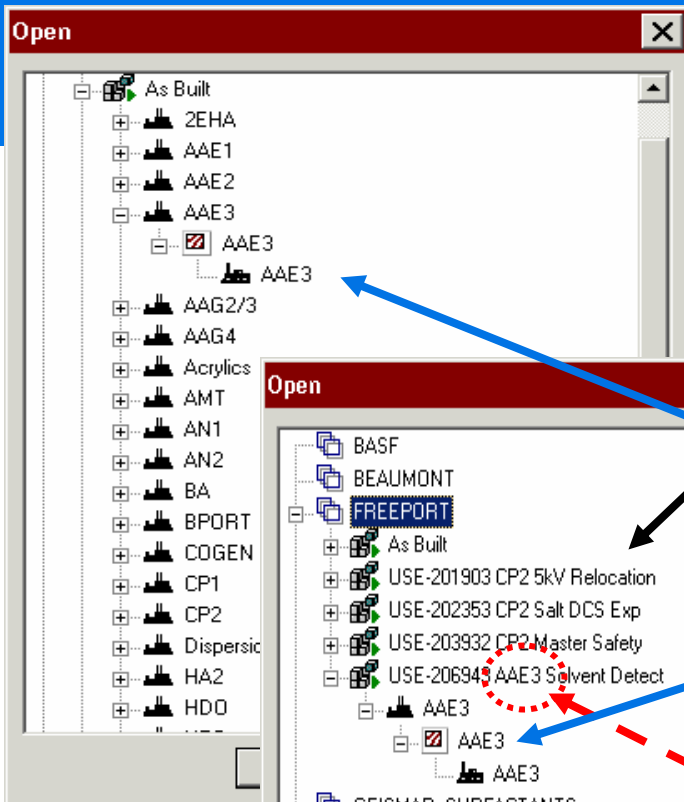
Benefits to the Plant by Using the Project Schema

- **Allows complete review and approval before the Project is merged into the Live Database.**
- **Allows for the live documentation (AsBuilt) to remain intact while the engineering design modifications are being made in the project.**
- **Allows the plant personnel to control the projects use of their tag naming conventions, I/O points or terminal connections.**
- **The plant personnel still see the tag names of instruments or panels in the live database. Also, the database can prohibit the duplication of tag names for the new additions in a Project.**

Our Structure



- 16 Domain plantsites Databases (1 AsBuilt per domain)
- Large plantsites are divided by Plant names

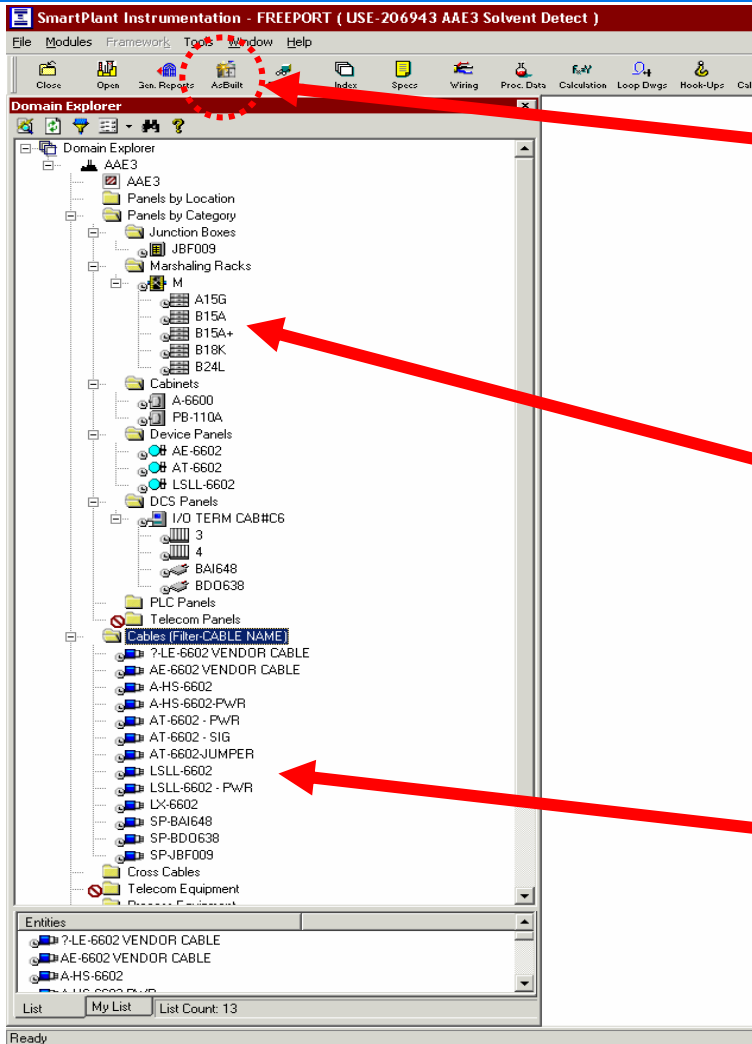


Projects are shown below the AsBuilt schema in their own schema.

Notice that the plant name shows up underneath the Project Name

We realized it was a good idea to add the plant name after the Project number for a quick reference.

Domain Explorer in a Small Project



There is an AsBuilt button that allows you to toggle into the AsBuilt Schema to claim needed items for the project.

Only the junction boxes, marshaling racks and cabinets that are assigned to the project appear.

Only the cables attached to this project appear in the window

Presentation Deficiencies

Wire Tag	Color	Terminal	Color	Wire Tag
B15A+1				
B15A+1				
B15A+3				
B15A+3				
B15A+5				
B15A+5				
B15A+7				
B15A+7				
B15A+9		AT -6602		
B15A+11				
B15A+11				
B15A+13				
B15A+13				
B15A+15				
B15A+15				
B15A+17				
B15A+17				

Wire Tag	Color	Terminal	Color	Wire Tag
		B15A+9		AT -6602

- All of the terminals not checked out to the project appear in red, however they are doubled. (TR already in process)
- All terminals checked out to the project appear in black

Notice the report printout to the left only shows the one terminal checked out to the project.

Issues with Claiming to the Project

- Large claims could bog down your system so it is suggested that they are claimed through the Admin Module during off hours
- Educate your personnel to only claim what they need for the project. *(i.e. do not claim a whole IO card if you only need one point)*

Issues with Merging

- **Currently, merging can only be performed when everyone is out of the system**
(i.e. overnight)
- **Various software problems have caused loss of data with merging**
(example: one project lost all cross wiring with merging the project back into the AsBuilt)

Overall claiming and merging has been improved in SmartPlant Instrumentation v7.0 and higher.

Issues with People for the Project Schema

People need to understand how the Project Schema works:

- If you delete a claimed cable, wire, terminal strip, IO card, etc. in the project module; when you merge it back into the AsBuilt it will **delete** it.
- If an IO card is claimed to a project, then the project decides to delete it, followed by the project recreating it with the same name, ***with their original deletion the connections were deleted to the Process Controller, the new recreated card will not attach correctly with the merge.***

Conclusion

The Project Module is essential to an Owner/ Operator's business but we need to work together with SPI to make improvements and enhancements in order to create an ideal tool.