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Z Machine: Data Analysis & Inventory System

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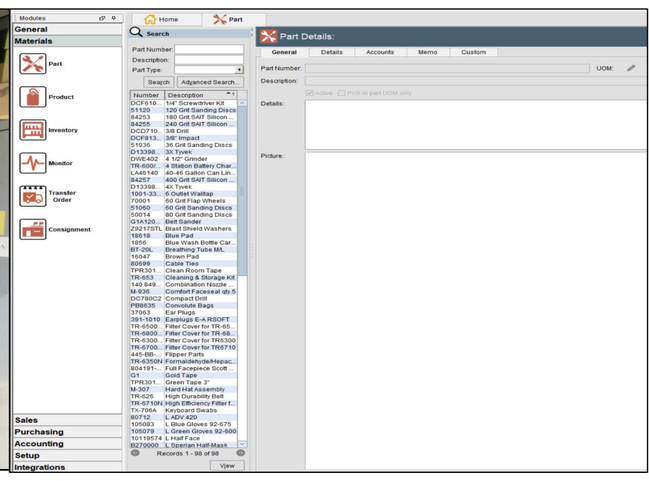
Center Section Consumables Inventory System

Objective: Implement an inventory system for Z Machine Center Section consumables to reduce man hours required for upkeep, waste, and uncertainty.

Process: Excel spreadsheets previously used to track inventory were inaccurate and required multiple hours per week to update. The time demands of the system were unable to be consistently met and led to inaccurate inventory counts. The inaccurate counts led to stock outs which wasted time and resources to address.

We began by documenting what consumables were currently in inventory and taking a count of on-hand inventory. Using Fishbowl Inventory Software, we entered the consumables into the system and calculated reorder points for each consumable. We created step-by-step documentation for the installation of the software, addition of new inventory SKUs, as well as receipt and allocation of inventory. We then helped develop and train the end users to a sustainable inventory process. Ultimately, this inventory system will help center section technologists keep track of their inventory with more reliability and accuracy while eliminating some of the time burden of upkeep and inefficiencies caused by inaccurate inventory counts.

Fishbowl®



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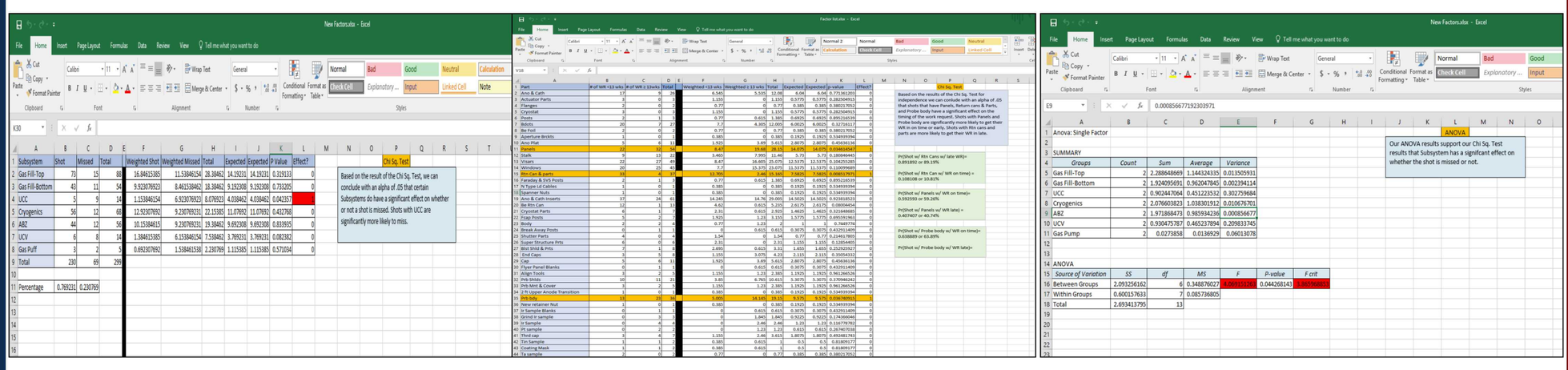
Z Shot Data Analysis

Objective: Gather, analyze, and interpret data on factors that possibly affect timing of released work requests, shot schedule, and the success or miss of Z shots.

Process: Using data provided from Z shot schedule over the last 2 years, we were able to interpret the data using Microsoft Excel. With the information gathered, we ran statistical tests, including linear regression, ANOVA, data transforms, and chi squared tests, to identify statistically significant effects caused by the identified factors.

Results: Through data analysis we were able to identify three parts that have statistically significant affects on the timing of work request release. We were also able to quantify the impact of particular subsystems on Z shot misses. This data can be used and further expanded to influence the shot planning process of the Z machine.

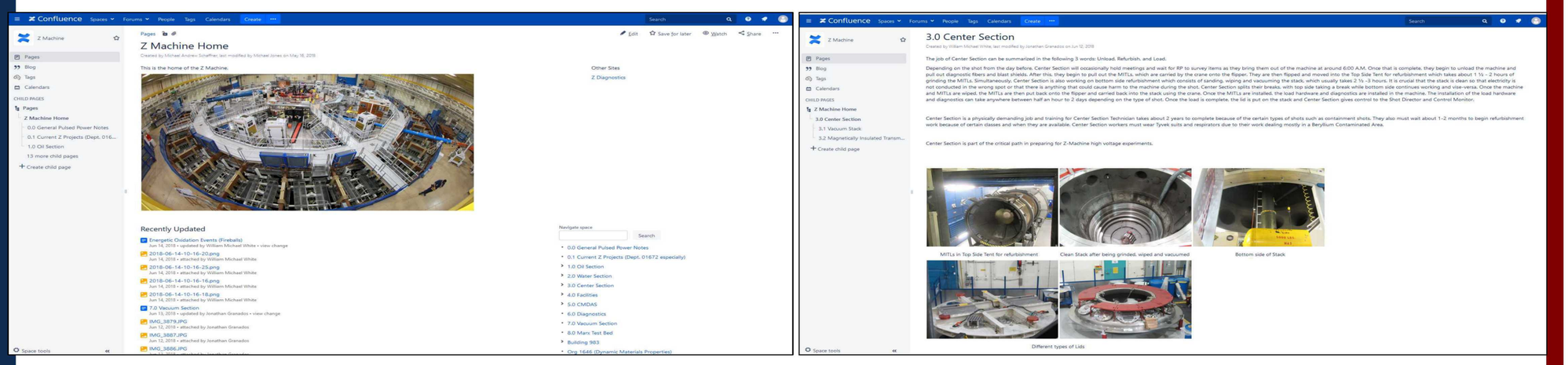


Z Machine Confluence Page Updates

Objective: Create a resource for new hires through understanding and documenting key activities necessary for daily Z Machine operations.

Process: We shadowed various sections involved in Z's operations to document what they are responsible for and what their day to day activities are. Using the information we gathered, we were able to update all blank or outdated Confluence pages with current information and images. Some examples of updated pages include Vacuum Section, Center Section, Laser Trigger System, Control Monitor/Data Acquisition System, Z Beamlet Laser, and Facilities.

Results: The first new hire to benefit from the updated information arrived at the end of June. Based on his review we were able to make edits for clarity and include more relevant content and images.



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