INTEGRATED FAILURE REPORTING, ASSET LIFECYCLE MANAGEMENT, AND INVENTORY MANAGEMENT

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SYSTEM SCHEMATICS → **DEFINE USH (Config. Database)** → **FMEA** → **ASSET ATTRIBUTES** → **JIRA ASSETS**

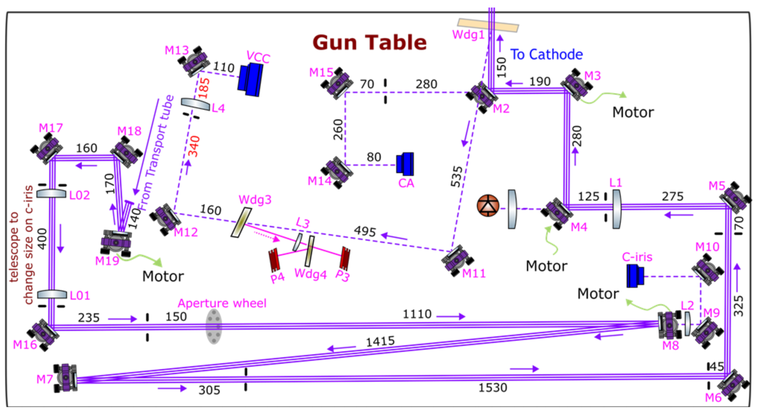
LCLS RELIABILITY, AVAILABILITY, MAINTAINABILITY LONG TERM GOALS

The RAM program at LCLS can improve from organization of systems and assets:

- Organization leads to better failure reporting producing data which can be used for LCLS operational excellence.
- Systems and parts are not currently tracked for reliability, which means failure patterns cannot be assessed.
- Jira is software used for FRACAS, FMEA, and ALM.

INTRODUCTION AND PROJECT SCOPE

- Prepare for Jira Assets: Jira can do many of our RAM goals in one existing system instead of multiple applications that must learned.
- Create an easy to follow detailed process for starting ALM in Jira Assets.
- Work with an existing system (S0 Injector) to provide an example of this process.

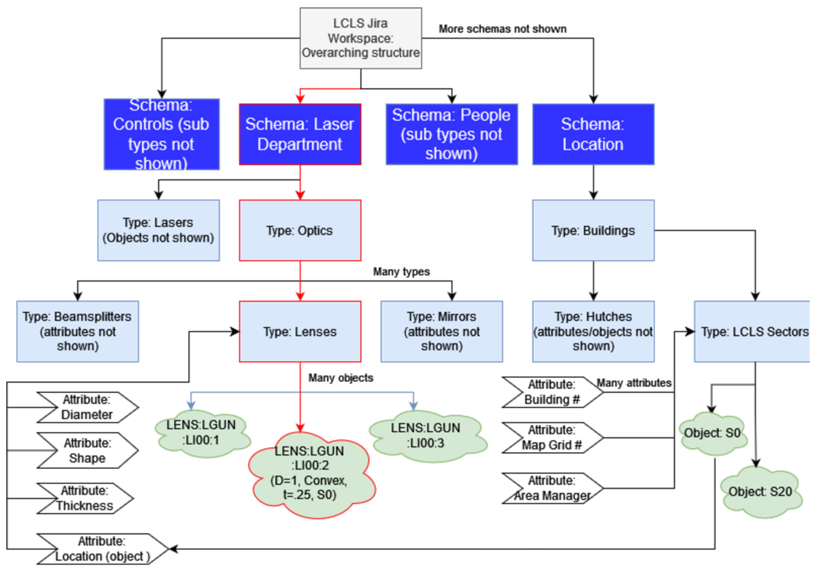


Example of Laser schematic which needs a RAM program. From this schematic, we must create a system hierarchy and a spreadsheet of different components.

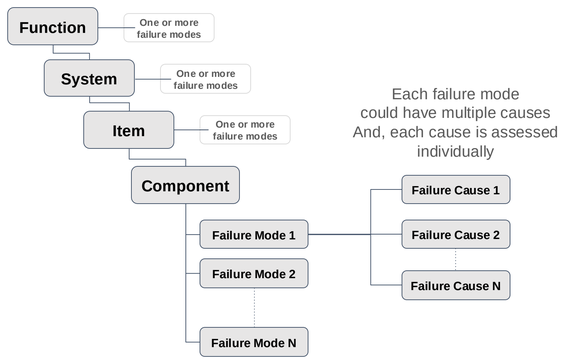
COLLABORATION WITH S0 PHOTOINJECTOR TEAM TO CREATE OPTICS USH & FMEA

To identify risks and challenges for asset management we partnered with the S0 Lasers Team for prototyping. This includes:

- Collaborating with multiple teams to create a naming convention for S0 Laser.
- Conducting a FMEA for existing systems.
- Collaborating with Jira consultants to create spreadsheets that are compatible with Jira assets import.
- Use above experience to create a workflow for asset management at LCLS.



This shows a simplified visual version of a unified system hierarchy. This USH will be implemented in Jira Assets



Graphical version of FMEA. Spreadsheet has been created to identify FMEA components.

APPLICATION OF USH/FMEA TO JIRA ASSETS FOR FUTURE INTEGRATED MANAGEMENT AT S0

Steps taken to prepare for Jira implementation:

1. Schematic: From S0 Lasers Team.
2. Developed USH and unique LCLS IDs.
3. Developed a FMEA for the systems.
4. Discovered attributes of S0 Optics Assets from communication with S0 Team.
5. Record part inventory and associated attributes (out of scope).

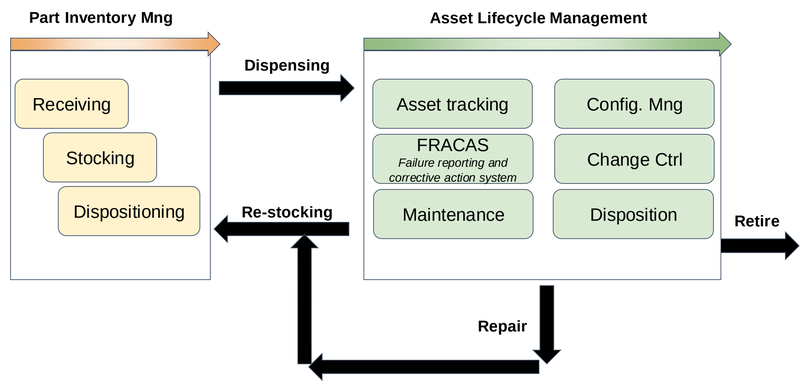
Goals for implementation:

- Have asset lifecycle management (ALM) seamlessly integrate with existing Jira systems.

CONCLUSION

The LCLS mechanical engineering team has successfully laid a framework for implementing FMEA in LCLS Operations. The next step will be:

- Continuing to work with consultants and teams to show that it can be used on an operational level.
- Show other teams the benefits of Jira to drive higher usage.
- Collaborate more with operations to learn more about their priorities and goals.



Graphic showing the full workflow for ALM

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