

Alert Production Replan Status

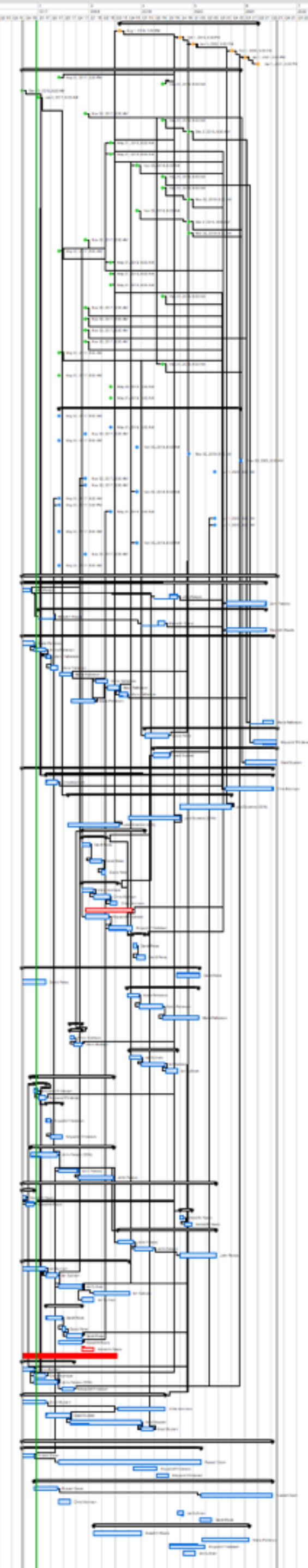
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Large Synoptic Survey Telescope

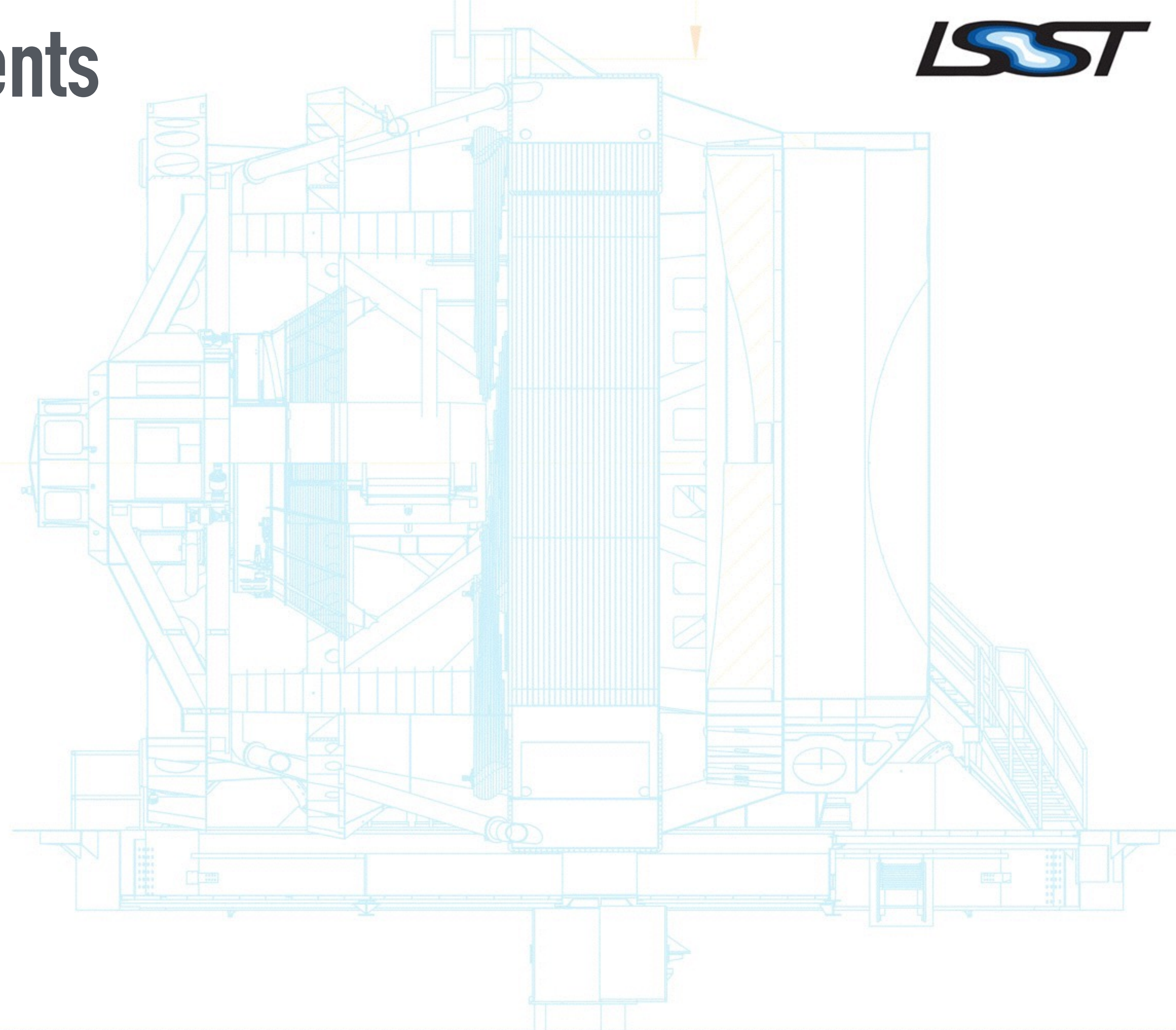
Replan Overview

- Pipelines integration, algorithmic components, and software primitives from LDM-151
- Start 2016-09-13, finish 2021-08-12
- 91 tasks
 - ~50 planning packages
- 500 person months (41 person years)
- 31 L3 milestones required from other teams or project science
- 20 L3 milestones from AP for other teams
- A little less than \$8M total cost on \$8,006,717 budget



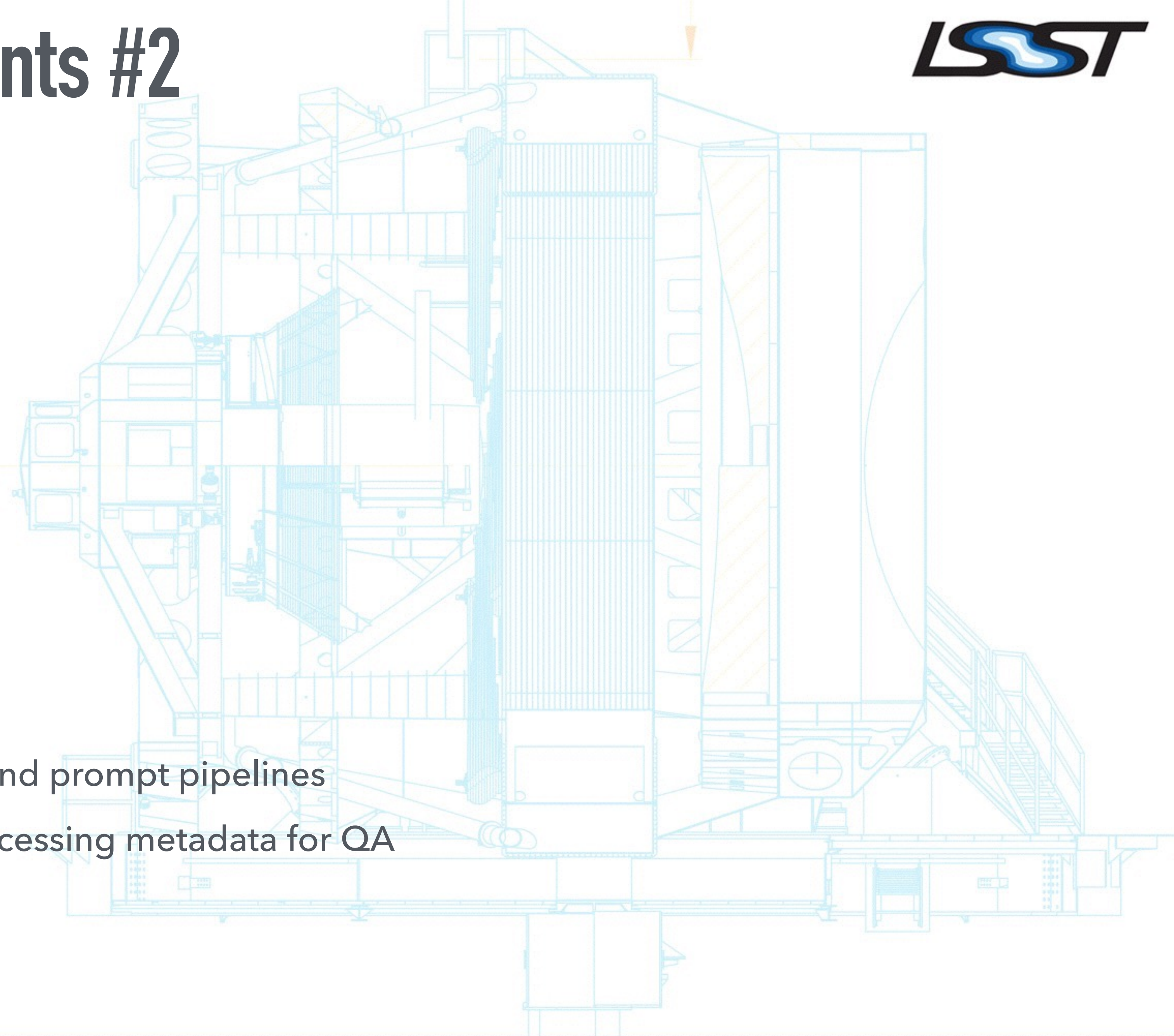
Sample Of L3 Requirements

- DRP
 - Background models
 - Coadd generation
 - Optical ghost model
 - Calibration products
 - Reference catalogs
- DM Project Science
 - Calibration design



Sample Of L3 Requirements #2

- DAX
 - SuperTask
 - Level 1 database and alert database
 - Database support for MOPS production
- SUIT
 - Catalog and image visualization tools
- NCSA
 - Workflow system
 - Hardware for MOPS, alert distribution, and prompt pipelines
 - Definitions of AP responsibilities for processing metadata for QA
- SQaRE
 - SQaSh



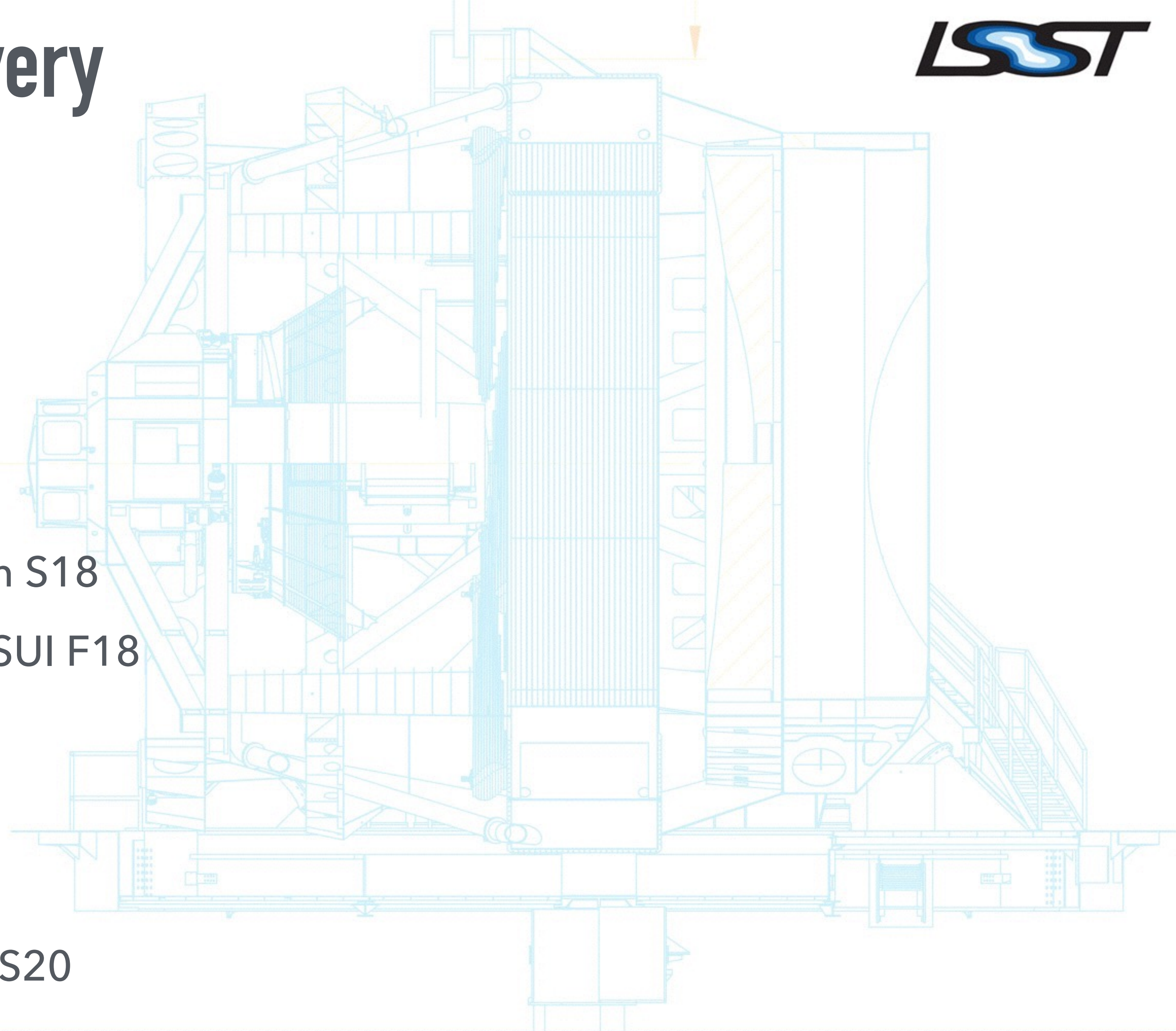
Sample Of L3 Milestones For Other Teams

- Arch
- Single frame processing system for Aux tel, com cam and full cam
- DRP
 - DCR corrected template algorithm
 - MOPS
 - Alert filtering engine
 - DIAObject generation
- SUI/T
 - Alert filtering API

Major Functionality Delivery



- Replan Complete S17
- Functional Jointcal S17
- Alert Distribution System F17
- Optimal difference images F17
- DCR corrected template algorithm S18
- Alert distribution integrated with SUI F18
- Production Jointcal S19
- Artifact detection suite F19
- MOPS F19
- Spuriousness for alert generation S20



Descoping

- Current re-planned budget is a little less than ~\$8M
- UW is fully staffed
- Marching army cost through construction is \$9.5M
- Current budget in PMCS is \$8M
- The resources and planned resources are consistent within 20%. The planned resources do not account for resources that will be called upon during commissioning and assume a perfect synchronization of tasks

Potential Descopes With Best Guess Savings



- * These may have massive impacts on science outcomes and milestones for other teams
- * I have not tried to analyze how to dial these on a continuum, so these are very approximate
 - Reduce effort on characterizing images –
 - If we do nothing more to take care of satellite trails, optical ghosts or CRs
 - Reduced performance in crowded fields –
 - Currently looking into this, so would need decide on this soon
 - Punt on purity in u and g bands (DCR) –
 - Also currently spending on this, so would need to act now
 - Pull back on solar system completeness –
 - If we tried to make do with no more MOPS development
 - This has the risk of producing a totally non-operable system and would likely push cost into operations
 - Dial back on alert distribution –
 - This is if we spend nothing more on spuriousness (real/bogus). This may have significant impacts elsewhere.