



# ALMA Common Software

## Basic Track

Project Lifecycle





ACS related development:

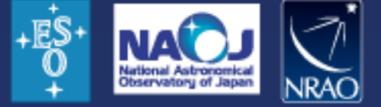
- ✧ Short cycles
- ✧ Functionalities added incrementally

Main steps during each cycle:

- ✧ Requirements capture
- ✧ Implementation
- ✧ Integration



# Requirements Capture



- ✧ Goal: group functionalities in high-level “components”, identified by their interfaces
- ✧ Language independent
- ✧ Steps:
  - ✧ Requirements identification → Use cases
  - ✧ Interfaces identification and component breakdown
  - ✧ Subsystem/module creation



# Implementation (I)



Main steps (not necessarily in sequential order!):

- ✧ Component IDL interface (language independent)
- ✧ Component simulation
- ✧ Component interface implementation (language specific)
- ✧ Component and high level tests implementation
- ✧ Component functionality implementation



## Implementation (II)

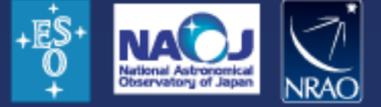


Tests are an integral part of the implementation (test-driven development). The main test layers:

- ✧ Class level: unit tests
- ✧ Component level: component tests through IDL interface access
- ✧ System tests: End-to-end subsystem tests



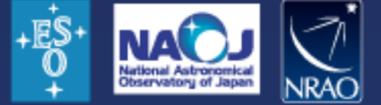
## Implementation (III)



- ✧ Unit tests
  - ✧ Implementation language specific
  - ✧ Written by component developer
- ✧ Component tests
  - ✧ Component interface specific
  - ✧ Language independent
  - ✧ Written by component developer or integration team
- ✧ End-to-end/Subsystem tests
  - ✧ Overall subsystem requirements related
  - ✧ Written by the integration team



# Integration



- ✧ Deploy all the components together in an integrated configuration database (CDB)
- ✧ Complexity depends on the number of components and interactions between components
- ✧ Main focus on high-level/end-to-end test execution

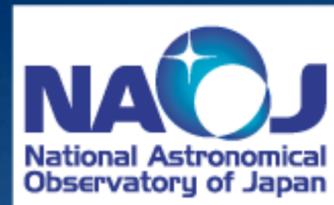


And then ...



... and start all over again!

# Questions?



## Acknowledgements

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