SOFTWARE LIFECYCLE IMPROVEMENT & MODERNIZATION

"SLIM is a shared resource for discussing, iterating and referencing best practices in software lifecycle process improvements for multi-mission space and ground software."

COLLECTIVE SOFTWARE LIFECYCLE, GOVERNANCE & INFO SHARING SOLUTIONS FOR OPEN MULTI-MISSION GROUND SOFTWARE. Continuous Integration & Deployment, etc. **Open Source** Example: automated testing Open templates for devs Software (OSS), Governance Development as well as *Inner* Software **Process** Tools / Source Lifecycle / Solutions Improvements Automation Funding Custom Development **Process Improvements** OSS Cross-cutting Solutions Forcing Improvements **O** Roles & Responsibilities Non-software Projects Agile Development Organization, etc. MM **ODT** Example: best processes for triaging feature requests Conviviality **SCOPE** Information Sharing Multi-mission **Process** CONTEXT **VALUES** OUT-OF-SCOPE Ground Improvements Software Documentation design, onboarding, training, etc.

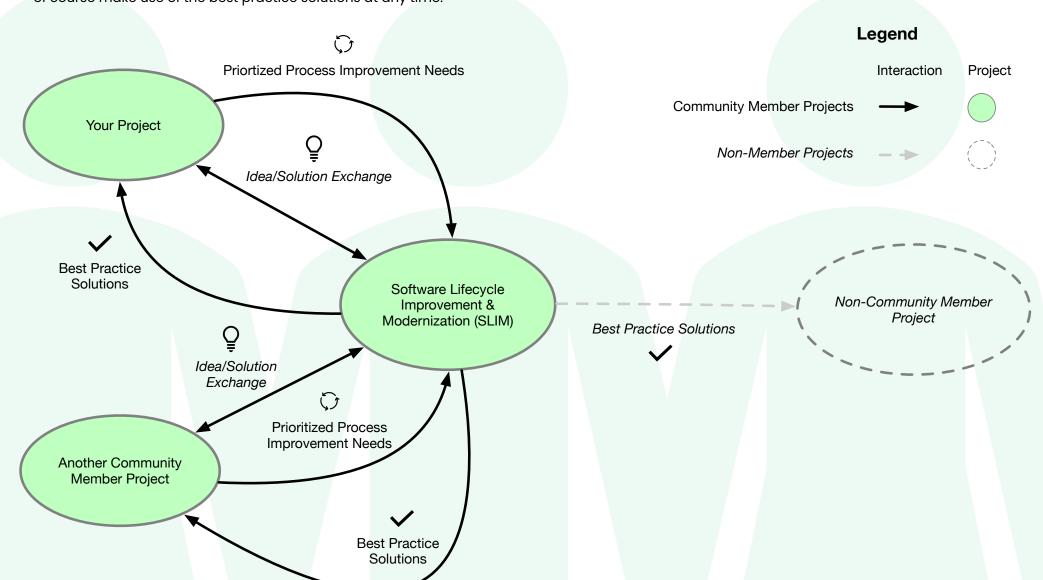
THE PROCESS

COMMUNITY-DRIVEN NEEDS MET THROUGH AGILE APPROACHES AND AUTOMATION ARCHITECTING BASED SOLUTIONS.

CREATING A COMMUNITY

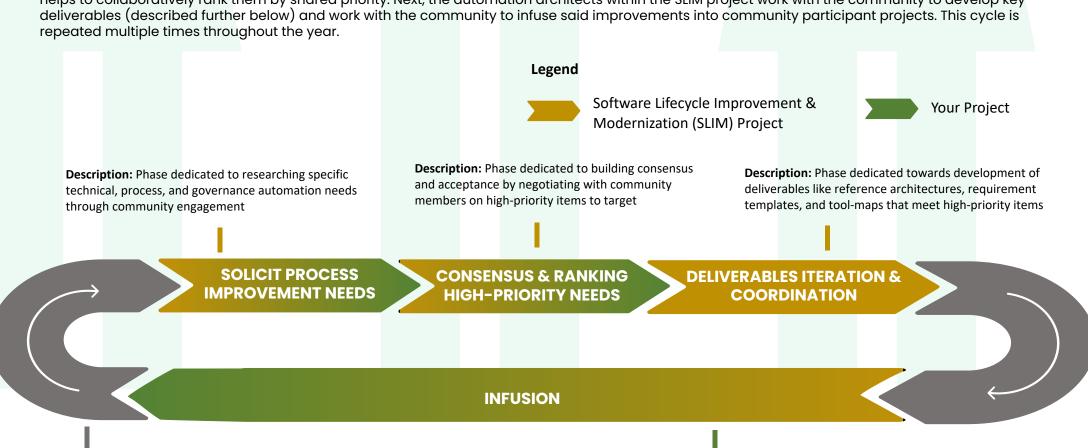
Example: consistent doc templates for on-boarding new team members

We're setting up a community-driven coordination process led by the Multi-mission Ground Software Systems (MGSS) Software Lifecycle Improvement & Modernization (SLIM) project to allow diverse software projects to coordinate upon software lifecycle process improvement needs & solutions while setting up a contribution model for community members to build and exchange best practices. A community-driven approach means the community helps prioritize which process improvements to collectively focus upon, research, and infuse into their respective projects. Non-community member projects can of course make use of the best practice solutions at any time.



COMMUNITY-DRIVEN ROADMAP FOR PROCESS IMPROVEMENT INFUSION

We're planning a phased approach to process improvement infusion – where the community first collaboratively identifies process improvement needs & helps to collaboratively rank them by shared priority. Next, the automation architects within the SLIM project work with the community to develop key deliverables (described further below) and work with the community to infuse said improvements into community participant projects. This cycle is



deliverables, and infusion status and prepare for next cycle

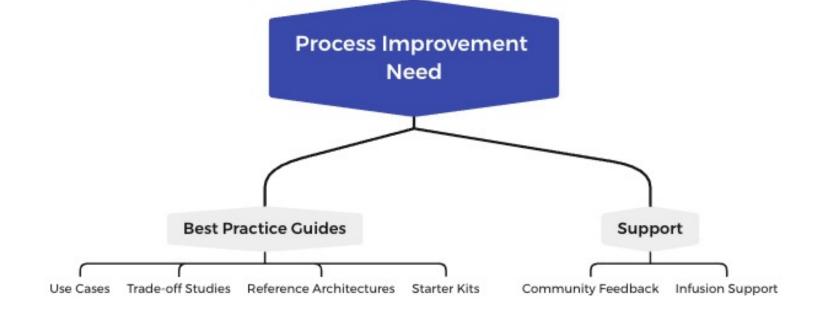
Description: Take lessons learned from community process, development of

member projects. Infusion success defined as acceptance of proposed process improvement automation via an established roadmap for infusion.

Description: Phase dedicated towards infusion of deliverables into key community

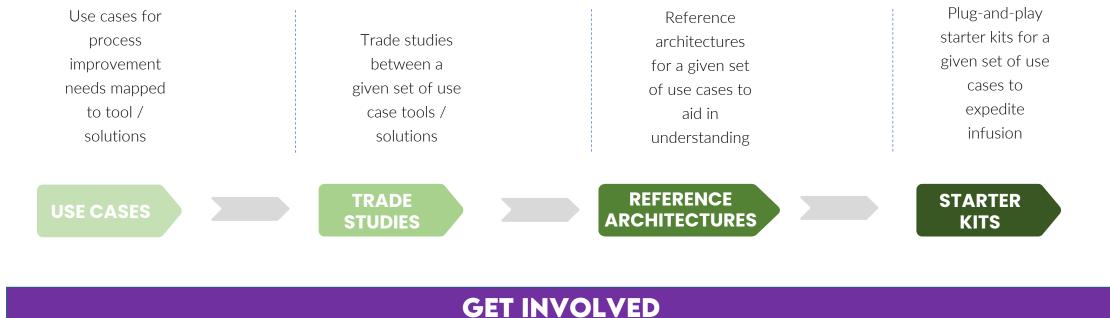
SOLUTIONS & DELIVERABLES

Each community-selected process improvement need will be investigated through an automation architecting lens. This means that key automationoriented solutions will be preferred and a set of deliverables will be presented to the community for infusion. These deliverables include reference architectures for enabling a specific process improvement as well as the context (use cases) of applicable scenarios for that process improvement need. Second, open templates and samples will be provided to the community which can be utilized for customization and infusion.



DEVELOPMENT PROCESS Our contributors work in a systematic way to take a given set of process improvement needs, and formulate a best practice guide by focusing on use cases

and tool recommendations, developing trade studies for each use case's set of tools, creating reference architectures for each use case, and finally offering the SLIM community plug-and-play starter kits to automate aspects of the given use cases.

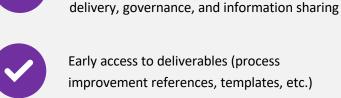


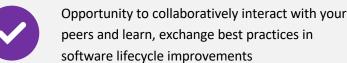
PARTICIPATE IN COMMUNITY-DRIVEN SOLUTIONS.

BE A COMMUNITY MEMBER

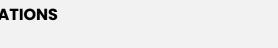


Best practices and recommendations for key software process improvements in software lifecycle



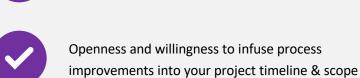






Active & timely participation in our open

development process



INTERESTED? nasa-ammos.github.io/slim