Background

Time and cost are critical metrics in the development of new products. Established product development procedures at Harris Corporation for the RF-7800V radio firmware development team were recognized as suboptimal. These procedures governed responsibilities, reporting, risk management, scheduling and, ultimately, project performance. Cost estimates were found to be inflated to maintain project schedule. Eliminating sources of waste is expected to lower the cost of firmware releases.

The DMAIC process was used to guide the analysis of existing procedures to develop new project status reporting methods and employee training.

Project Goal

Reduce the cost and effort associated with project planning, tracking, and oversight by 10% for the radio firmware development team.

Method

The DMAIC Process

- **Define**: Procedures are in place for collecting status, directing activities, managing risk, scheduling, producing schedule data and project status reports. Pre-control, process mapping, and I-MR/SM plots were used to identify areas needing improvement. The data set was non-normal distribution.
- **Measure**: Procedures mapping and time series analysis were used to examine labor costs from weekly financial labor reports and meeting times.
- **Analyze**: Significant waste was identified in activities of the project status meeting and in the use of scheduled activities. Waste sources were identified by 95%.
- **Improve**: Existing procedures for project status gathering were modified. Critical causes: (1) meeting idle time, (2) redundant status tracking. Idle time reduced by reporting status before meetings. Redundant status tracking reduced through new project template.
- **Control**: The new project management templates were submitted to Harris Corporation for approval and are now in place. The revised procedures are now part of a revised project charter and every employee. Training and documentation were provided to the project teams.

The DMAIC Process

1. **Define**: Determine the project goal, define the scope and charter, and identify project team members.
2. **Measure**: Collect data and measure the current process.
3. **Analyze**: Analyze the data to identify root causes of defects or problems.
4. **Improve**: Develop and implement solutions to improve the process.
5. **Control**: Establish control mechanisms to sustain the improvements.

Results

The Lean Six Sigma Greenbelt project reduced the time needed to track project status (Figure 3). Meeting times were reduced by 50% by eliminating idle time. The annual cost of project planning, tracking, and management was reduced by nearly 50%, considerably more than the original goal of 10%.

Conclusions

Process improvements substantially reduced the time, effort, and cost associated with project management for the RF-7800V radio firmware development team. Further analysis is needed to confirm the sustainability of these improvements, but Harris is now equipped with new procedures and tools to ensure long term success.