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| **Project title** | Reduce Time and Cost of Tool Development | | | |
| **Problem statement** | As our business has grown over the years, our tool development process has become a major problem. The primary customer complaint is that our order-to-sell time is too long. This is caused primarily by large numbers of tool rework cycles. Over the past year, the number of reworks per tool ranged from 0 to 18. The order-to-sell time ranged from 3 to 57 days. The rework cost per tool ranged from 0 to $32,400. We cannot compete on price with our Chinese competitors, so our only hope is to compete on quality and lead time.  A secondary problem is that many of the tools released to manufacturing from the current testing process require slow line speeds and high material weight. | | | |
| **Goal statement (qualitative)** | Reducing the number of rework cycles will reduce the order-to-sell time and the annual cost of tool rework. Increasing line speeds and material weight will reduce manufacturing lead times and cost. | | | |
| **Value stream scope** | PVC products, Business Unit 1. | | | |
| **Workflow scope** | Starts with receipt of a CAD drawing from the customer, ends with an approved tool and run conditions released to Manufacturing. | | | |
| **Out of scope** | Composite products, Business Units 2 and 3. | | | |
| **Constraints** |  | | | |
| **Concerns** | There have been several previous attempts to improve this situation. None were successful. | | | |
| **Assumptions** | Solutions developed within the project scope will apply directly to out-of-scope areas. | | | |
| **Project metrics** | **Baselines** | **Goals** | | **KPIs affected** |
| Annual tool rework cost | $2.4 M | $1.2 M | | Operating cost |
| Avg. number of reworks | 3 | 1.5 | | Operating cost |
| Avg. order-to-sell time | 12 days | 6 days | | Customer satisfaction |
| Dimensional conformance |  | DNH | |  |
| Cosmetic quality |  | DNH | |  |
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| **Team members** | **Roles / Responsibilities (Green Belt, Black Belt, Leader, Scribe, Job Title, etc.)** | | | |
|  | Operations Manager | | | |
|  | Quality Manager | | | |
|  | Tool Testing Engineer (PVC) | | | |
|  | Process Engineer (Composites) | | | |
|  | Tool Tester | | | |
|  | Tool Tester | | | |
| **Resources** | **Roles (Champion, Black Belt, Process Owner, Finance, IT, HR, Facilities, etc.)** | | | |
|  | “Old timers” | | | |
|  | IT person | | | |
|  | Master Black Belt | | | |
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| **Stakeholders** | **Connection to project** | | | |
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| **Milestones** | **Plan** | | **Actual** | |
| Project start |  | |  | | |
| Define phase complete |  | |  | | |
| Measure phase complete |  | |  | | |
| Analyze phase complete |  | |  | | |
| Improve phase complete |  | |  | | |
| Control phase complete |  | |  | | |