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CASE STUDY

Lean Process Improvement

Leonardo DRS

PROBLEM / CHALLENGE

An aerospace, security and defense contractor needed to improve its Request for Proposal (RFP) process to speed up response time.

The RFP process for these highly technical and critical products is complex, yet it needs to be swift and accurate. An RFP estimated poorly can cause losses for years on large multi million-dollar programs and damage the company's ability to win future projects.

The RFP process spans many departments including site specific as well as remote personnel from around the country.

The improved process needed to serve a broad group of company stakeholders and their different critical needs.

LEAN ASSESSMENT

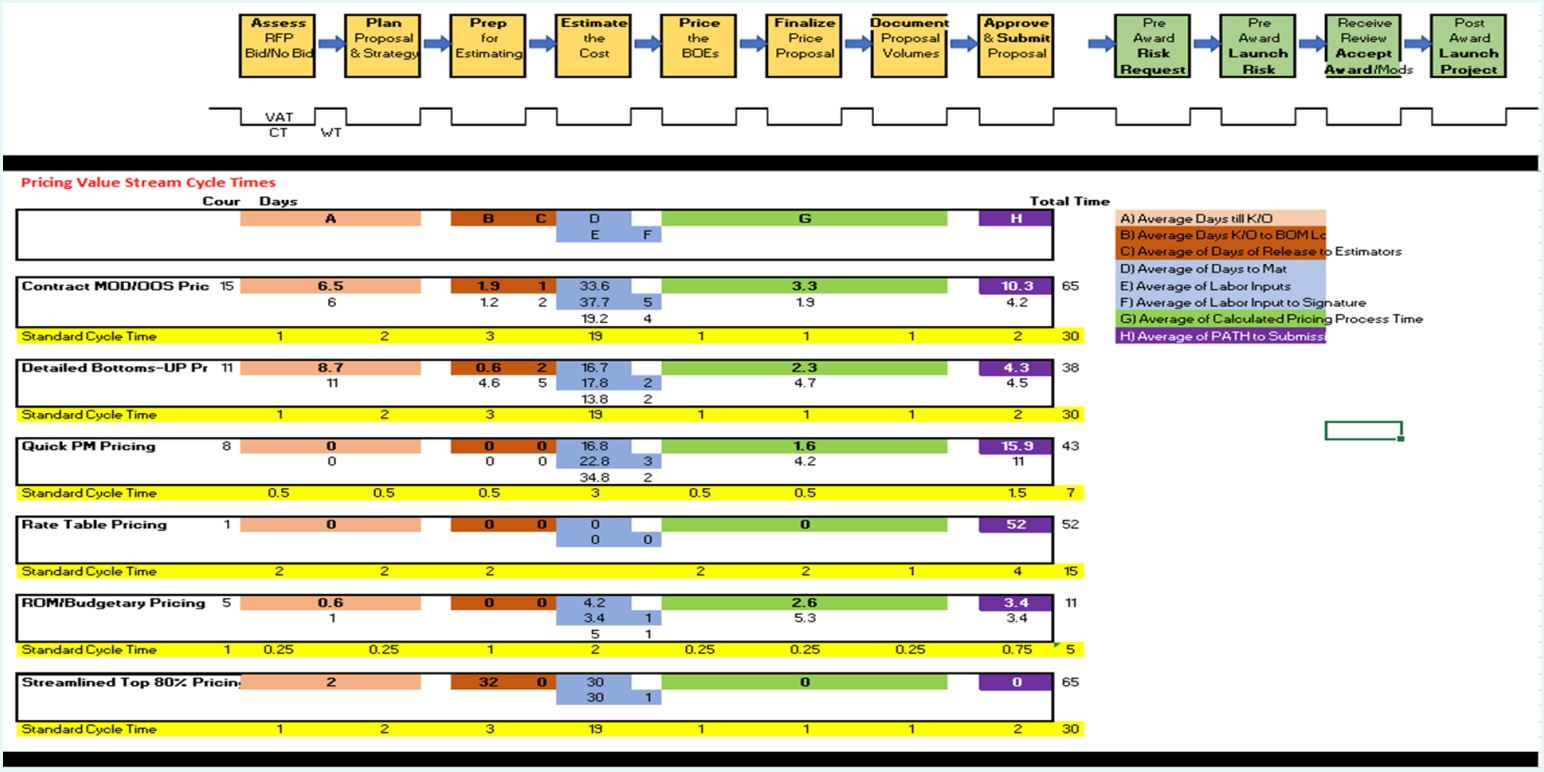
- **Benchmark Current RFP Process**
  - Identify the key value steps with roles & responsibilities for each
  - Quantify current state performance
  - Identify areas for improvement and launch related sub-projects

- **Improve Data and System Interface Between Engineering Design, Manufacturing Engineering and Operations**
  - Multiple engineering systems have similar data and uses, but they don't interface well and require redundant, manual data entry
  - Manual data entry is prone to error
  - Redundant data entry is time consuming and wasteful

- **Optimize Supply Chain Pricing Tool**
  - SC pricing tool does not interface well with engineering planning systems and requires manual data entry from RFP process
  - RFP pricing adjustments required during the proposal generation phase result in excessive rework by SC personnel

- **Improve Import of Customer Technical Data Packages (TDP)**
  - Uploading of the TDP and BOM is often manual, very time consuming and error prone
  - Estimating can't begin until the TDP is loaded resulting in critical lost time for RFP submission
  - Done differently by different people

BENCHMARK RFP PROCESS – VSM & SIPOC

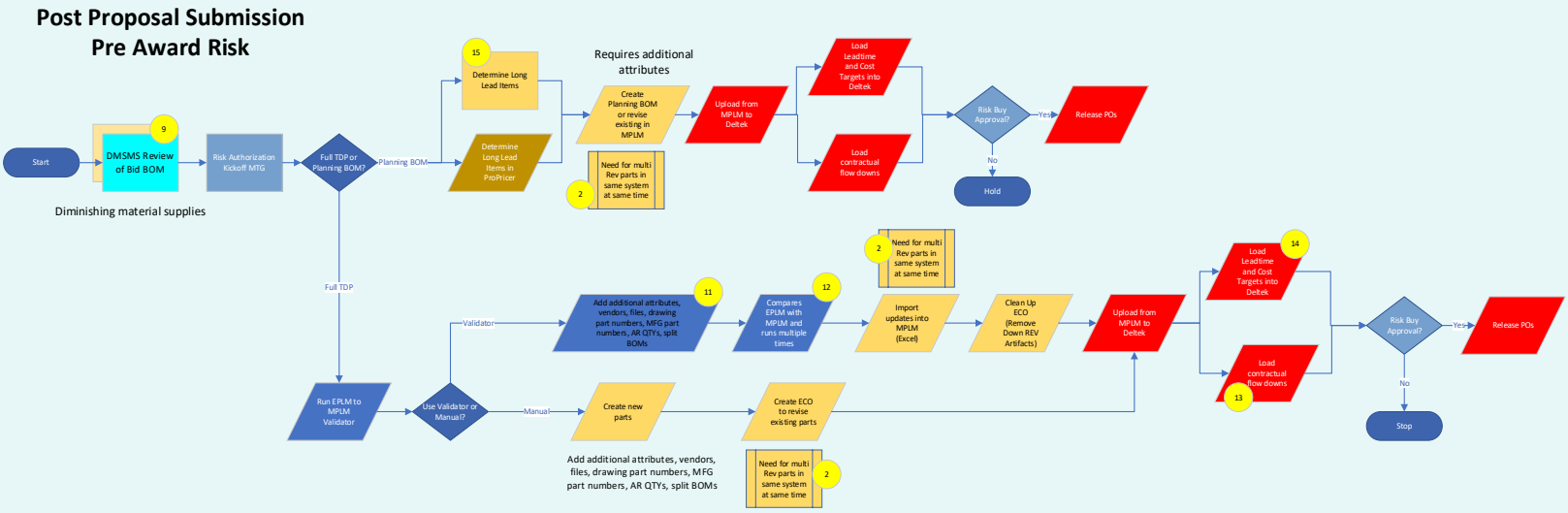


- VSM benchmarks the current state performance of the business and serves as a tool to monitor future performance after improvements are implemented
- SIPOC (Supplier-Input-Process-Output-Customer clarifies the roles and responsibilities required, which ultimately account for the time and process steps required for the RFP process
- SIPOC includes both internal and external customers and their requirements

Suppliers	Inputs	Processes	Outputs	Customers	Covered by Power	Report from	Action	Meeting / Discussion	Currently PATH	Covered in Procedure
Project Engineering Lead			Released/Frozen Eng Bid BOM							X
			Baseline Eng Bid BOM							X
			Optional: Issues log analysis							X
			Optional: DMSMS analysis							X
			Identify GFI deficiencies & list of what we will do							X
	Make Buy Algorithm	Make Buy Determination Process	List of Make Assemblies & QTYs	Estimating	X					
		Define As Required (AR) quantities			X					
EPLM & MPLM	Commodity code		Reviewed commodity codes		X					
		Prep Material/Subcontract for Estimating								
Manufacturing Eng Lead Material Estimating Lead Project Engineering Lead	TDP		with QTYs & Tech Data (Drawings, etc) PROPRICER IS LOADED AND GOOD TO PROCEED	Estimating Team Supply Chain Team	X					
		Prep Manufacturing Labor for Estimating								
	DRS MFG Mods	RFP comparison to current system	Gap analysis	Estimating Team	X					
Manufacturing Eng Lead	TDP, SOW	Determine recurring requirements	**Labor Recurring Requirements** - Make assys, Tech Data	Manufacturing Eng Team	X					
Program Manager	TDP, SOW	Determine Support requirements	**Labor Support Requirements** - Make assemblies list, work package assignments, risks,	Manufacturing Eng Team	X					
Manufacturing Eng Lead	TDP, SOW	Determine Mfg Engineering Requirements	**Labor Mfg NRE Requirements** - SOW, work package assignments and	Manufacturing Engineering Team	X					
Test Engineering Lead	TDP, SOW	Determine Test NRE requirements	**Labor Test NRE Requirements** - SOW, work package assignments and	Test Engineering Team	X					
		Prep Engineering Labor for Estimating								
Project Engineering Lead	TDP, SOW	Determine Design Engineering Requirements	**Engineering Requirements** - make assemblies, SOW, work package assignments and Tech Data	Design Engineering Team	X					
		Prep Support Labor for Estimating								
Contracts Lead, Program Manager	TDP, SOW	Determine contractual flowdowns	Contract flowdowns and assignments	Procurement Team	X					
Program Manager	TDP, SOW	Determine required CDRLs	CDRL Contractual Data requirements	Program Manager	X					
		Prep ProPricer for Estimating								
	IBOM	ProPricer tool	CBOM	Procurement Team	X					
	Proposal BOM IBOM	Proposal BOM verification against IBOM (not formally done today but shold be in future)	Validation	Pricing Team	X					

- Together VSM and SIPOC provided a basis for determining areas for improvement, changes or compromises needed to achieve goals, and other critical decision making for going forward.

CURRENT STATE PFM FOR POST PROPOSAL SUBMISSION & PRE-AWARD RISK



Process Flow Mapping to Improve Processes

- PFM was used to improve key sub-processes identified in the VSM
- Identified and eliminated non-Lean activities
- Identified system interface issues and generated recommended improvements

RFP Sub-Processes Improved

- Consolidated Engineering, Manufacturing Engineering and Operations Planning Systems into a single system
  - Better data quality
  - Less redundancy of data entry
  - Increased speed
- Automated TDP and BOM uploads
- Linked SC pricing software with Engineering and Estimating Processes

RESULTS

- Increased RFP Estimating speed by 40%+
- Significant reductions in back office (redundant) data entry
- Standardized and documented RFP process and related sub-processes

Reference: Mark Allan, Senior Director Quality and Operational Excellence

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