

Bringing Profitable Products to Market

The Business Model

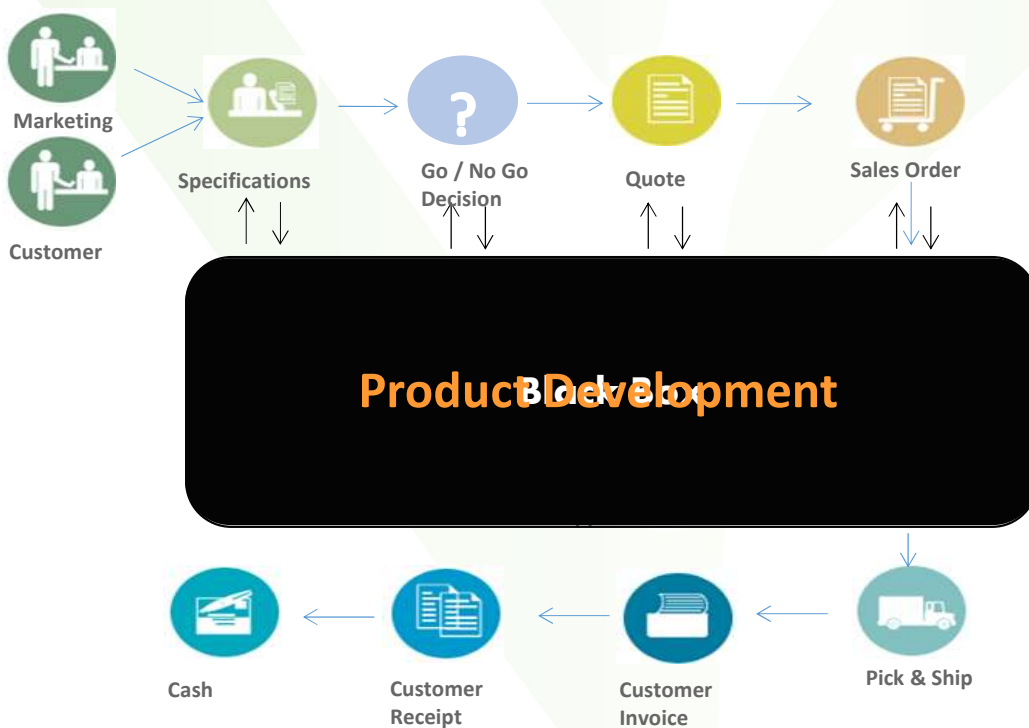
- A. Make to Stock (MTS)
Products driven by marketing, design & requirements are internally owned
Volume/Pricing based on customer or market estimates
Margins are a function of cost and volume
- B. Configure to Order (CTO)
Customer driven options or variants
Project or platform driven margin
- C. **Engineer to Order (ETO)**
Quote based on customer specifications
Design, Requirements, & Change owned internally or externally
Focus on schedule and cost
Project managed and project driven margins
- D. All of the above
Different models for different products and divisions

The Business Process

- Manage a request for a product
Marketing Program/Special Order/RFP/RFQ?
Go/No Go
Identify Volume
Draft a BOM
Preliminary cost information from all effected departments to define cost to manufacture
Build in margins
Final cost based on above
Quote and win order
- Design, develop, and manufacture product
Ship
- Analyze results based against original projections the quote was based on
Were initial projections and margins realized? If not why?

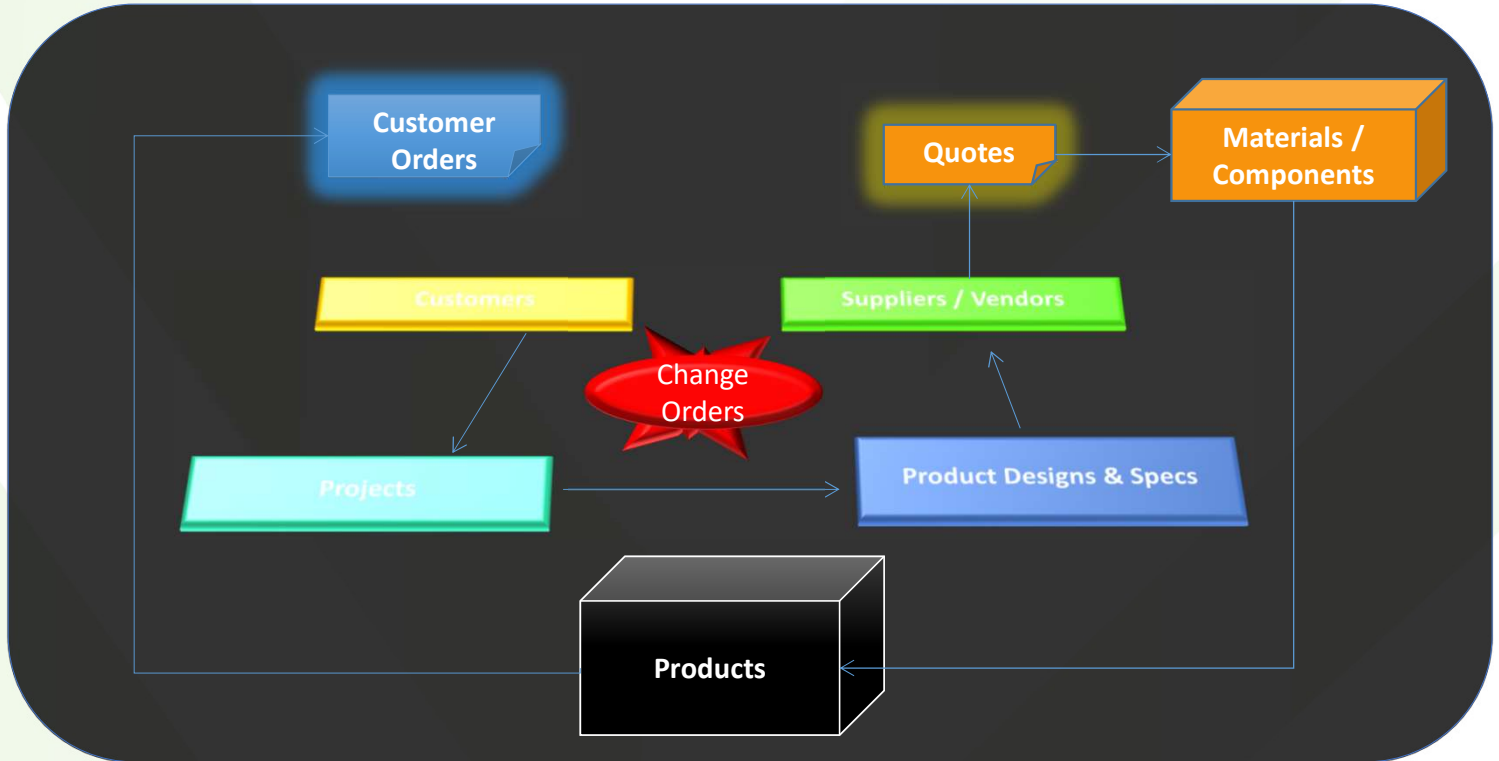
Uncontrolled changes and documentation increase risk and the chance of missing profitability targets and delivery schedules

Typical Challenges

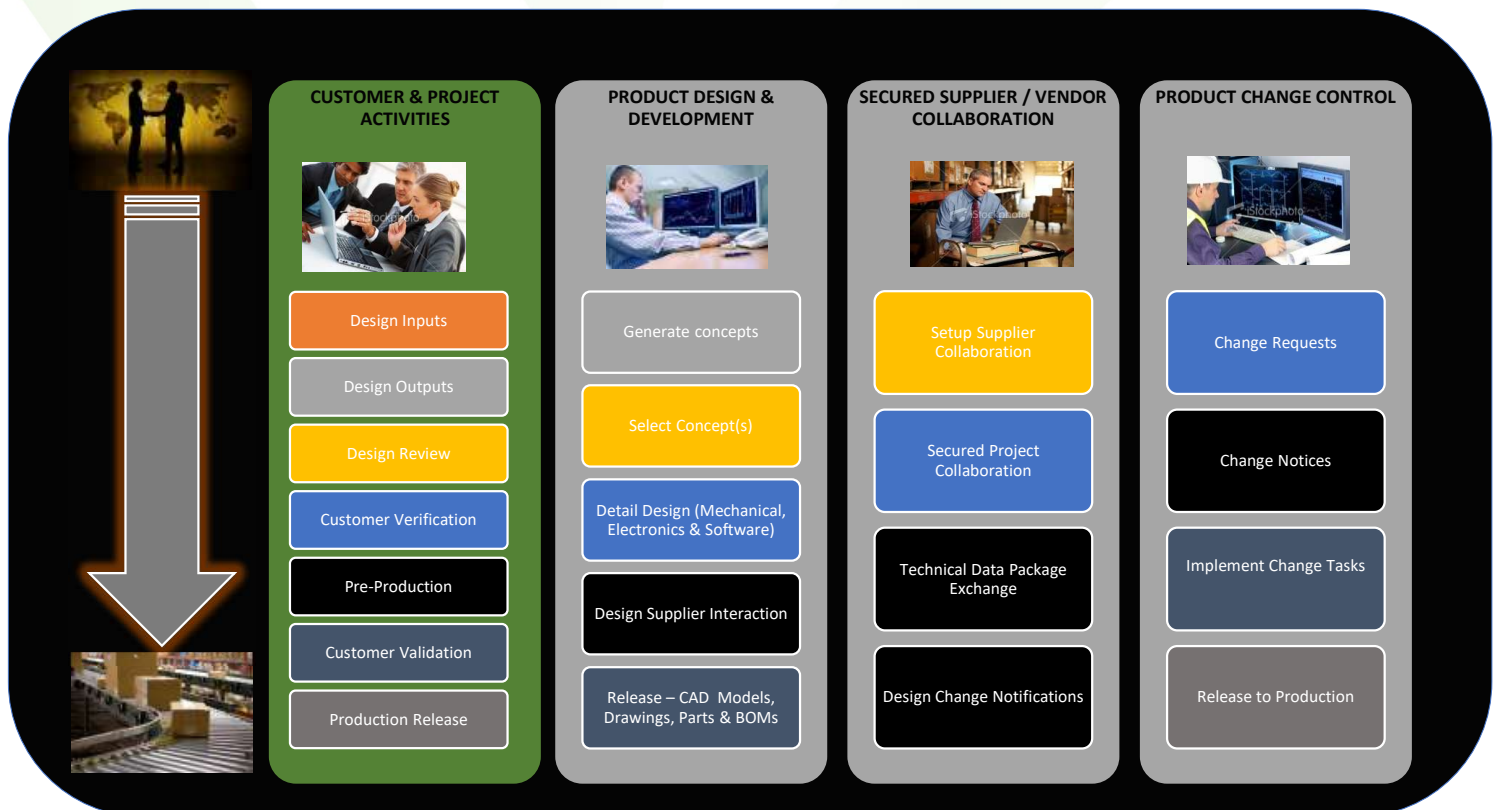


- Diminishing Margins
 - Project or Program Margins not meeting projected expectations
 - Inability to determine if a project or platform is profitable
- Reduced Margins due to uncontrolled changes
 - Customer changes are not documented and billed back to customer as required
 - Expediting leads to mistakes, rework, and warranty costs
- Schedule creep
 - Late term identification of customer specifications
 - Un-controlled changes add additional risk to schedule
 - Missing or inaccurate project reporting
 - Missed delivery dates
- Cost overruns
 - Endless Engineering changes
 - Late change notification to suppliers

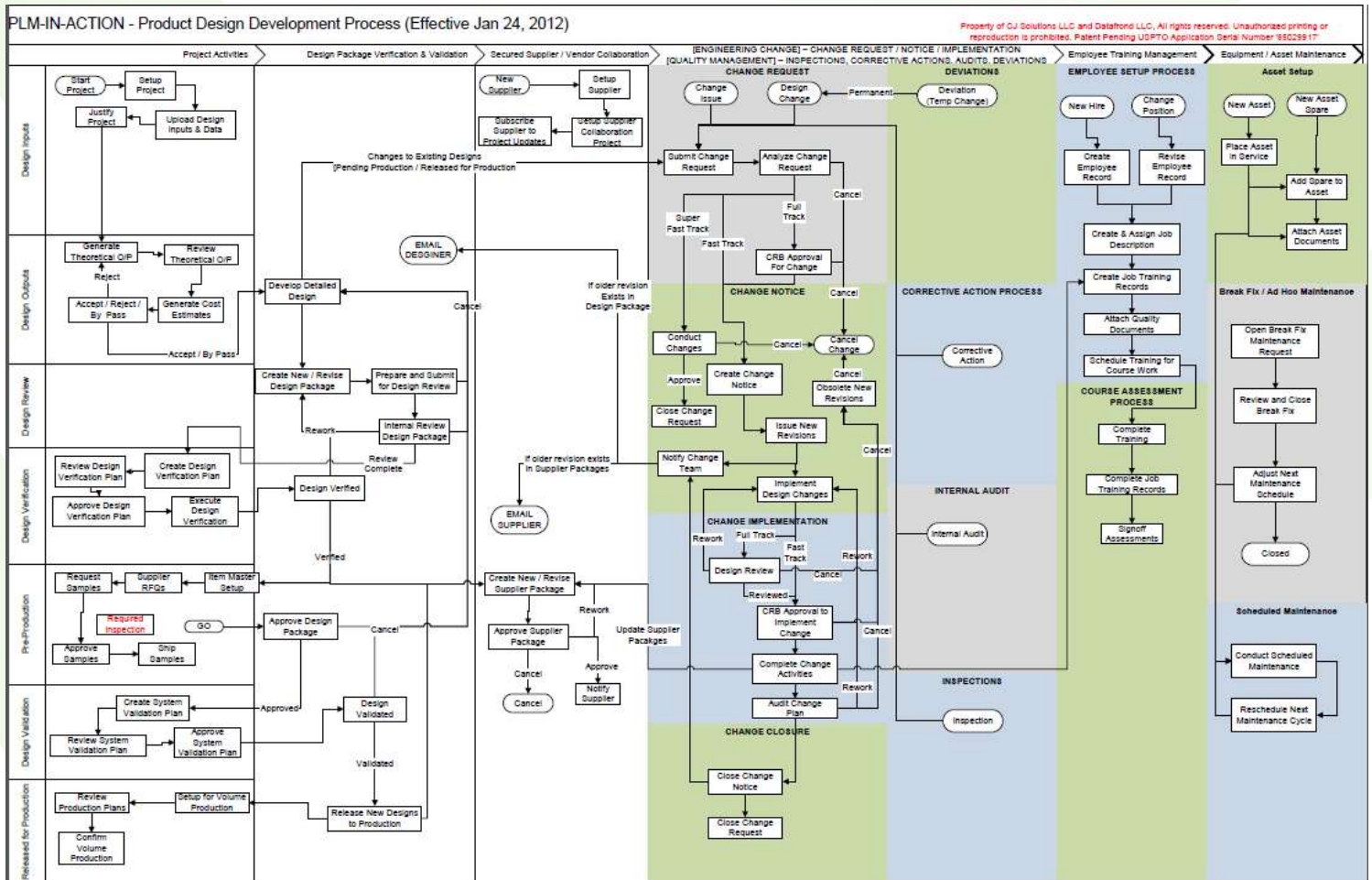
Improve Business Performance



Best Practice – ETO Business Process Template



Best Practice Processes and Workflows to run your business



1. Project Management and Execution
2. Design Verification
3. Design Validation
4. Supplier collaboration and review
5. Engineering Change Request
6. Engineering Change Order
7. Release to Production