Implementing DFMA®

AN INTERACTIVE DISCUSSION

What are the Objectives of DFMA® Implementation?

WHAT DOES “SUCCESS” LOOK LIKE?

The Objectives of DFMA® Implementation

- Employee knowledge, skills and attitude for DFMA® utilized across various business functions
  - Product/System Development & Design
  - Supply Chain Development
  - Productivity Improvement
  - Competitive Product Analysis
- Competence with DFMA® methodology and software
- Targeted applications with significant, validated results

Data-Driven Design Decisions

DFMA® Integrated into the Life Cycle

DFMA Product Simplification & Costing

DFMA Productivity Improvement

Competitive Analysis

PDP Feasibility	PDP Design	PDP Testing & Prep.	Production

DFM Supplier Costing ("Should Costing")

Signs of Success

- Conversational Language
  - “How many parts …?”
  - “What’s your theoretical minimum?”
  - “How can we reduce the number of fasteners?”
- Standard Work Documents
- DFMA® Related Metrics Being Monitored
- Project Plans Include DFMA® Activities
- Programs Launching On Time With Fewer ECO’s
- …

In what ways can DFMA® be implemented?

WHO ARE THE USERS/LEADERS?

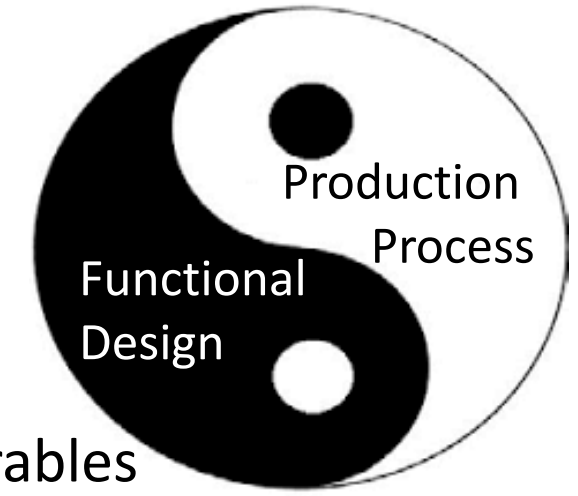
HOW IS IT INCORPORATED INTO CURRENT STANDARD WORK?

WHAT ARE SOME OF THE LESSONS LEARNED?

DFMA® ≈ Concurrent Engineering

Concurrent engineering (**CE**) is a work methodology emphasizing the parallelization of tasks (i.e. performing tasks concurrently), which is sometimes called **simultaneous engineering** or **integrated product development** (**IPD**) using an integrated product team approach.

Concurrent Product & Process Design



"Form, fit, & function"
Design documentation
Specifications & Deliverables

Value Stream Map
Assembly process
Tooling, Jigs & Fixtures
Part routers-methods sheets
Inspection plans
Packaging

DFMA® Implementation Strategies

- Engineering Team
  - Design/Development integrates into project plan
  - Responsibility assigned to team member(s)
- Operations Team
  - Manufacturing and Supply Chain define expectations for project teams
  - Representatives take responsibility for execution
- Subject Matter Experts (SME)
  - Core group of identified individuals recognized for their knowledge and facilitation skills
  - Provide application support for one or more teams concurrently

DFMA® is a Team Sport

SME Strategy Case Study

- Conducted numerous workshops to provide broad-based training and application experience and to create a funnel of improvement projects
- Project monitoring system established to track projects, validate results, report summarized annual results
- Established group of SME's to train, coach, and lead others in their application and to manage software use
- Results: 100+ projects at various stages of execution with $M's of validated cost savings
- Migrating "upstream"

How are knowledge, skills, and attitude established in the organization?

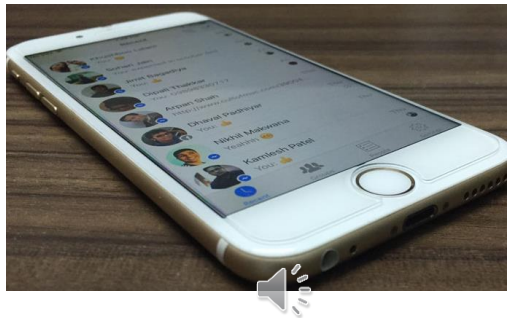
Different Players, Different Needs

- Leaders … executives, managers, project leaders, etc.
  - Role: set goals, make decisions, **enable** teams
  - Knowledge: what, why, & when of DFMA® … Informed
- Project Team … cross-functional, integrated project team
  - Role: develop & design product, document design intent, manage costs
  - Knowledge & Skills: what, why, when, and **how** of DFMA® … Consulted
- DFMA® Leaders
  - Role: primary DFMA® users, facilitate team through DFMA® analysis
  - Knowledge & Skills: what, why, when, how, and **facilitation** of DFMA® … Responsible

BDI DFMA® Workshop Options

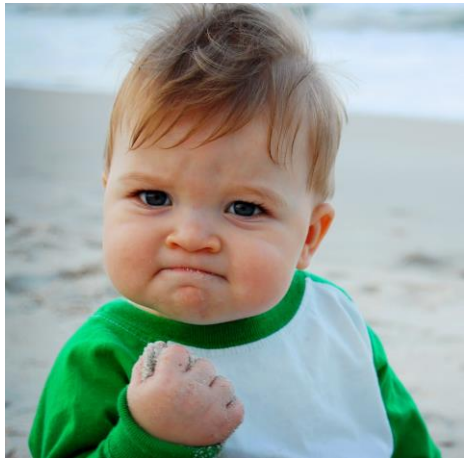
- DFMA® Proof of Concept Workshop … Knowledge
  - Audience: Up to 30 with emphasis on stakeholders, decision makers and organization leaders
  - Project: Small sample assembly but can use client provided project(s)
  - Duration: 1-2 days
- DFMA® Implementation Workshop … Knowledge, skills, & results
  - Audience: Up to 24 cross-functional/cross-organization
  - Project: Multiple small projects with small teams (3-5 people)
  - Duration: 2 or 3 days depending upon size of projects
- DFMA® Guided Analysis Workshop … Knowledge & results
  - Audience: Project core team members
  - Project: Single project with application facilitated by BDI
  - Duration: 1-5 days depending upon project size

Leverage the Habit Forming Process



Make it Obvious

Make it Attractive WIIFM



Make it Satisfying

Make it Easy

Source: James Cleary, “Atomic Habits”

Continue Learning From Each Other

Take advantage of this evening and tomorrow to meet people you don’t know and learn from each other.