

General Needs Assessment

- Our RM needs include SW, HW and System/Technology development
- SW-centric needs focus on textual targets, test validation and traceability
- HW-centric and system needs similarly include textual targets, test validation and traceability
- HW-centric and system needs, however, are driven much deeper by the PDP and TDP
 - To support TDP/PDP deliverables and execution, RM tools must be able to handle:
 - Quantitative storage and analysis of targets, design predictions and process capability
 - Computational linkages and traceability throughout core PDP steps and data, including VOC/VOB/BOT/VOR, Market Reqs, Product Specs, Critical Parameters, Cost Targets, Cost Estimates and Actual Costs, Faults, Mitigations, Controls, and Validation/Verification Tests

SW Needs

TDP/PDP Needs

**SW-centric RM Needs
focus on documentation**

- ✓ Textual Req's & Spec's
- ✓ Textual V&V Tests
- ✓ Trace Matrices

HW and system-centric RM needs are driven by the broader goal to achieve lean execution of detailed TDP/PDP steps and deliverables

- ✓ Market data analysis (Segmentation, KJ, etc.)
- ✓ VOC/VOB/VOT/VOR assessment and prioritization
- ✓ Critical Parameter identification through HOQ and Hazard Analyses
- ✓ Design Concept Exploration and Selection (Pugh/Kano)
- ✓ System Tree / Functional Tree / Risk Tree Creation and Linkage
- ✓ Bottoms-up FMEA, Mitigation, and Control Plan Management
- ✓ 1st Eng. Principle Computation and Transfer Functions
- ✓ Critical Parameter Flow-down and Design Prediction Flow-up
- ✓ Statistical Variation Target Assessment / Scorecard Reporting
- ✓ Design of Experiments and Test Management
- ✓ Product Cost Estimation and Initiative Management