

# **Get It Sold, Keep It Sold**

**Making the Business Case for High Maturity**  
**November 17, 2010**

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**Six Sigma Black Belt**  
**Northrop Grumman Corporation**

# Warm & Fuzzy Prospects . . .

. . . may initially attract management's attention, but they will soon be asking, "What's in it for me?"

## CMMI Performance Results Summary

Performance Category	Median Improvement	Number of Data Points	Lowest Improvement	Highest Improvement
Cost	34%	29	3%	87%
Schedule	50%	22	2%	95%
Productivity	61%	20	11%	329%
Quality	48%	34	2%	132%
Customer Satisfaction	14%	7	-4%	55%
Return on Investment	4.0 : 1	22	1.7 : 1	27.7 : 1

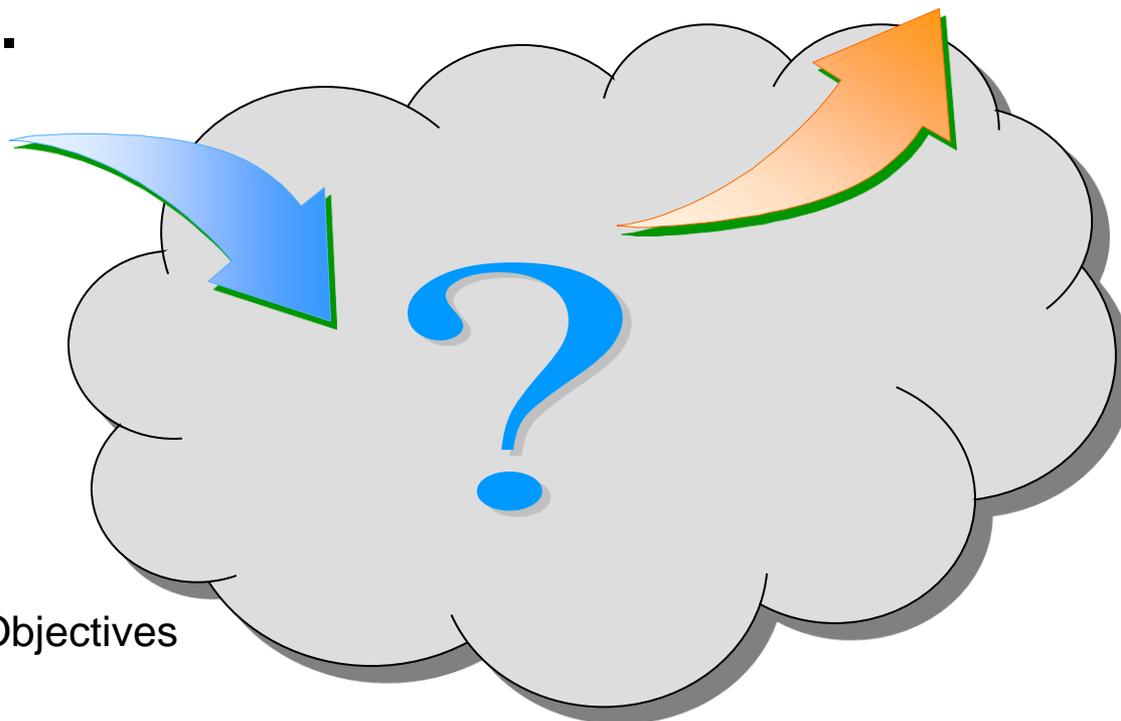
*Note: The performance results in this table express change over varying periods of time.*

Source: Gibson, Goldenson & Kost, "Performance Results of CMMI-Based Process Improvement," CMU/SEI-2006-TR-004, August, 2006.

# This Is Your Opportunity to Market!

**... How do you make the business case for High Maturity**

**Given this ...**

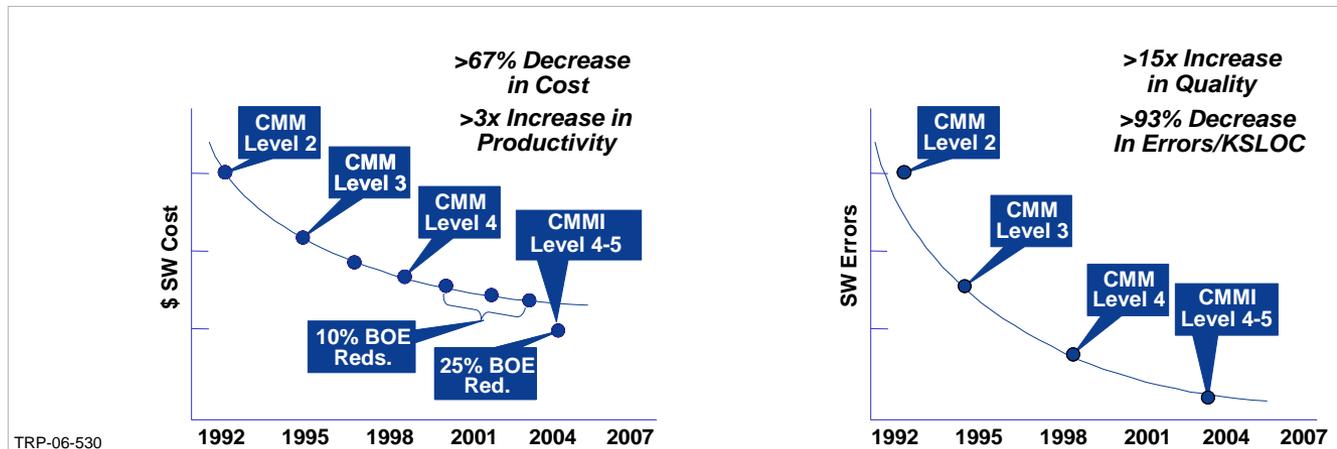


- Organizational Goals & Objectives
- Competing Resources
- Cost Constraints
- Competing Improvement Opportunities

**You Need a Structured Methodology to Market the Value**

# Getting Past the Warm & Fuzzies

- Locate the opportunities
- Rank the candidates objectively
- Plan to execute successfully
- Capture & market the results
- Make it permanent



TRP-06-530



# Align Business Goals with the Work



Locate the Opportunities

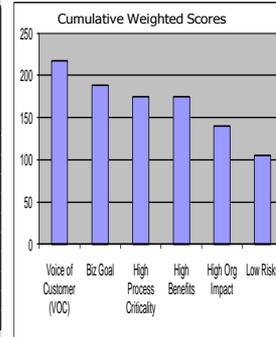
# Choose the Right Projects

1.1 Names of Evaluation Team Members		
2	TMZ_01	Henry
3	TMZ_02	Deisy
4	TMZ_03	Jose
5	TMZ_04	Mae
6	TMZ_05	Curly
7	TMZ_06	Larry
8	TMZ_07	Steve
9	TMZ_08	Duffy
10	TMZ_09	Patty
11	TMZ_10	Ernie

Blue cells are for data entry.  
Data entered appears on other sheets for consistent labeling.

- Identify the evaluation team members
- Identify the evaluation criteria
- Identify the improvement candidates to be evaluated

Evaluator	Criteria						sum	check
	Low Risks	High Benefits	High Org Impact	Business Goal Alignment	Voice of Customer (VOC)	High Process Criticality		
Director 1	20	20	10	20	20	10	100	ok
Director 2	10	10	20	10	20	30	100	ok
Director 3	15	15	15	30	10	15	100	ok
Director 4	10	15	10	15	20	30	100	ok
Director 5	15	15	25	20	25	0	100	ok
Director 6	5	15	20	23	22	15	100	ok
Director 7	10	20	15	25	15	15	100	ok
Director 8	5	15	10	20	25	25	100	ok
Director 9	5	10	10	20	30	25	100	ok
Director 10	10	40	5	5	30	10	100	ok
Total	105	175	140	188	217	175		



Candidate	Weight	Criteria						Total Weighted Scores
		Low Risks	High Benefits	High Org Impact	Business Goal Alignment	Voice of Customer (VOC)	High Process Criticality	
2009-01 Requirements Process	31.00	34.00	34.00	32.00	34.00	38.00	34009.00	
2009-02 Configuration Management Process	35.00	34.00	33.00	36.00	33.00	34.00	34104.00	
2009-03 SW Design Process	37.00	31.00	27.00	29.00	29.00	28.00	29735.00	
2009-04 HW Design Process	26.00	31.00	32.00	30.00	33.00	41.00	30611.00	
2009-05 Verification Process	36.00	33.00	34.00	34.00	39.00	38.00	35190.00	
2009-06 Validation Process	32.00	34.00	32.00	30.00	21.00	32.00	29687.00	
2009-07 Integration Process	27.00	36.00	31.00	33.00	30.00	35.00	30564.00	
2009-08 Lab Scheduling Process	32.00	31.00	37.00	38.00	38.00	36.00	35655.00	
2009-09 Peer Review Process	33.00	37.00	31.00	34.00	44.00	45.00	38995.00	
2009-10 Modeling Process	29.00	25.00	25.00	34.00	23.00	45.00	26678.00	
2009-11 Management Process	31.00	35.00	34.00	36.00	31.00	37.00	34110.00	

Sum of each evaluator's "raw" rating, for each evaluation criterion.

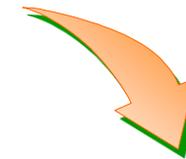
Sum of each "raw" rating times it's associated evaluation "weight".

Data above is computed from other sheets. Highest ranked project is indicated by "Highest Score".

Identify owning Directors, proposals and evaluation criteria



Weight the evaluation criteria



Rank & score the candidates to determine the best process improvements to work

## Rank the Candidates Objectively

# Plan Obsessively

Identify data to be collected

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CAUSAL ANALYSIS & RESOLUTION (CAR) ORGANIZATIONAL INNOVATION & DEVELOPMENT (OID)  
PLANNED ACTIVITY CHECKLIST

PROJ. ACTIVITY TITLE	DESCRIPTION	DEFINITION DATE
<b>III. ACTIVITIES OF CAR ANALYSIS</b>		
1. Review of defects or other process anomalies and the release for defect analysis and analysis improvement proposals		
2. Performing CAR and/or CED & develop an Action Proposal		
3. Action items resulting from Action Proposal		
4. Cost estimates of analysis & resolution		
5. Measures of change to performance resulting from resolution		
<b>IV. CHECKLIST FOR DEVELOPMENT OF ANALYSIS OBJECTS TO BE SUBMITTED FOR DESIGN AND/OR COLLECT &amp; ANALYZE IMPROVEMENT PROPOSALS</b>		
A. IDENTIFY KEY PERFORMANCE INDICATORS (KPIs) AND/OR PROBLEMS/ISSUES TO BE COLLECTED (Project teaming according to a well-defined process of systematically involve the operator where problems and error and equipment process change to address root causes of analyzer problems)		
1.A.1	<input type="checkbox"/>	Customer required defect or process performance issues
1.A.2	<input type="checkbox"/>	End user reported defect or process performance issues
1.A.3	<input type="checkbox"/>	Peer Reviewer reported defect or process performance issues
1.A.4	<input type="checkbox"/>	Issues reported customer that are systemic or significant
1.A.5	<input type="checkbox"/>	Process Capability problem
1.A.6	<input type="checkbox"/>	Process management reported problem that are systemic or significant
1.A.7	<input type="checkbox"/>	Equipment change
1.A.8	<input type="checkbox"/>	Customer change
1.A.9	<input type="checkbox"/>	Customer transportation
1.A.10	<input type="checkbox"/>	Customer transportation equipment
1.A.11	<input type="checkbox"/>	Customer training
1.A.12	<input type="checkbox"/>	Issues in measurement data that are systemic or significant
1.A.13	<input type="checkbox"/>	Customer management issues related to significant quality issues of customer
1.A.14	<input type="checkbox"/>	Proposals based on strategic direction (e.g. AOP and SOP goals driven from Long Range Strategic Plan)
1.A.15	<input type="checkbox"/>	Proposals based on procedures in transportation performance improvement (e.g. long process performance issues) (PMIs) and/or process performance baseline (PPMs) to identify and analyze the variation process)
1.A.16	<input type="checkbox"/>	Operational improvements from a quantitative understanding of the transportation performance
1.A.17	<input type="checkbox"/>	Other - Describe
B. SELECTED METHODS TO INQUIRE AND DETERMINE WHAT DEFECTS AND/OR IMPROVEMENT PROPOSALS TO ANALYZE (Customer analyst, Interview, walk etc.)		
1.B.1	<input type="checkbox"/>	Plants
1.B.2	<input type="checkbox"/>	Personnel
1.B.3	<input type="checkbox"/>	Process Capability analysis
1.B.4	<input type="checkbox"/>	Issue walk team (IWT)
1.B.5	<input type="checkbox"/>	Process flow
1.B.6	<input type="checkbox"/>	Process risks and critical analysis (PRA)
1.B.7	<input type="checkbox"/>	Analysis of history of similar defects or problems from quantitatively managed processes and capabilities
1.B.7	<input type="checkbox"/>	Use of process performance trends (PPMs) to understand the relationship of processes or
1.B.8	<input type="checkbox"/>	Changes in higher level processes and capabilities, and to predict repeat and calculation of cost benefits
1.B.9	<input type="checkbox"/>	Consideration of how the improvement will benefit the project over time (expected life span of proposal)
1.B.10	<input type="checkbox"/>	Other - Describe Reported defects to lessons learned by end users

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Develop action plan for innovation

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**II. CHECKLIST FOR IMPLEMENTATION - STEPS TO RESPOND CAR/OD & DEVELOP ACTION PROPOSAL**

A. IDENTIFY APPLICABLE ORGANIZATIONAL REQUIREMENTS REGARDING PERFORMANCE OF CAR AND/OR OD

2.A.1  Special processes don't meet specified quality and process performance objectives

2.A.2  Risk product unable/unwilling to deliver from its requirements

2.A.3  Change tool, tool area problems caused additional wastage

2.A.4  Other - Describe

B. IDENTIFY AND ANALYZE CAR/OD SELECTED DEFECTS AND OTHER PROBLEMS TO DETERMINE ROOT CAUSES (Clustering on type and number of defects if they make sense to group defects within inventory and causes)

2.B.1  Cause and Effect (Fishbone) diagram

2.B.2  Check sheets

2.B.3  Analysis of process performance baseline (PPMs) for performance attributes

2.B.4  Analysis of process performance baseline (PPMs) for process improvement mappings to predict effects of the change to the process, the potential benefits, evaluation of side effects, and/or evaluating the effects of root causes

2.B.5  Other - Describe

2.B.6  Other - Describe Documenting with SMEs to determine defect types, issues etc.

C. GROUPING TYPICAL SELECTED DEFECTS OR OTHER PROBLEMS AND/OR IMPROVEMENT PROPOSALS (Based on higher root causes)

2.C.1  Underlying process

2.C.2  Nature of communication

2.C.3  Not accounting for all details of the task

2.C.4  Missing resources in a related process (e.g. supply)

2.C.5  Process definition

2.C.6  Other - Describe

D. PROPOSE AND DOCUMENT ACTIONS DESIGNED TO PREVENT FUTURE OCCURRENCE OF SIMILAR DEFECTS OR OTHER PROBLEMS AND/OR IMPROVEMENT PROPOSALS

2.D.1  Changes to the process in question

2.D.2  Changes to training

2.D.3  Changes to software

2.D.4  Changes to communication

2.D.5  Changes to work products

2.D.6  Other - Describe

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Specify evaluation criteria

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**5. ACTION PROPOSAL**

NOTE: Customer process improvement activity (Organizational Innovation & Development) instead of Cause Analysis and Resolution (CAR). It may be required to capture cause of the activities in step 10 as a guide for future debugging in the system. This can be done via maintenance or through other resources such as customer or supplier. The improvement proposal is not required to be significant. It can be a process change or a fix, or it can be addressed as one of the related process, pulling the improvement out of the report.

DESCRIPTION OF THE PROPOSAL (Only applicable to TOP items that require a plan)

3.A.1  Existing process improvement or new project

3.A.2  Simulating or modeling the improvement through the use of other statistical techniques

3.A.3  Other

3.A.4  Other - Describe

DESCRIPTION OF THE PROBLEM AND/OR IMPROVEMENT PROPOSAL

PHASE OR PROCESS STEP WHEN PROBLEMS/DEFECT AND/OR IMPROVEMENT OPPORTUNITY WAS IDENTIFIED

DESCRIPTION OF ACTION PROPOSAL (DOCUMENT OUTLINE PER EVALUATING SUCCESS OR FAILURE OF CHANGE)

A. CHECKLIST FOR ACTION ITEMS RESULTING FROM ACTION PROPOSAL

CAR/OD Action Items Form (See 2.2.2) Not out

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Estimate budget & schedule

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**6. COST ESTIMATES OF ANALYSIS AND RESOLUTION**

6.1  Have analyst cost for identifying and correcting defect/analyst identifying and implementing improvement. Provide details here.

6.2  Released cost of not fixing the problem and/or not implementing improvement.

**7. EVALUATE EFFECTS OF IMPROVEMENT - MEASURES OF COMMITTED TO PERFORMANCE RESULTS FROM RESOLUTION**

A. MEASURE CAPABILITY OF THE PROJECT'S DEFINED PROCESSES (Customer analyst should change process, defined ability of process or user to meet and process performance objectives as determined by statistical)

7.A.1  Change in defect trends (i.e. change in mean or error count)

7.A.2  Process capability, significance testing, or other statistical technique using a before and after process performance baseline (PPM). Document the change in statistical report

7.A.3  Comparing the change to the process performance record (PPM) to see if predicted performance metrics were achieved

7.A.4  Use of a PPM to determine if the change will positively contribute to meeting customer quality and other process performance objectives

7.A.5  Other - Describe

B. MEASURE CAPABILITY OF THE PROJECT'S DEFINED PROCESSES (Customer analyst should change process, defined ability of process or user to meet and process performance objectives as determined by statistical)

7.B.1  Change in ability of process to stay within process specification boundaries or improved process capability (i.e. representative improved control limits or control chart)

7.B.2  Other - Describe

REGULATOR INITIALS	OPERATOR AND/OR ANALYST INITIALS	DATE	MANAGER INITIALS	DATE

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Measure & evaluate

# Plan to Execute Successfully

# Success Is in the Details- 1

Artifacts generated by following this process



Triggering data or process condition



Business rationale



NORTHROP GRUMMAN CAUSAL ANALYSIS & RESOLUTION (CAR)/ORGANIZATIONAL INNOVATION & DEPLOYMENT (OID) PLANNED ACTIVITIES CHECKLIST		
CAR/OID ACTIVITY TITLE	ORIGINATOR	INITIATION DATE
<b>SIX CATEGORIES OF CAR ARTIFACTS</b>		
<ol style="list-style-type: none"> <li>1. Record of defects or other problems analyzed, and the rationale for decision and/or collect &amp; analyze improvement proposals</li> <li>2. Performing CAR and/or OID &amp; develop an Action Proposal</li> <li>3. Action Proposal</li> <li>4. Action Items evolving from Action Proposal</li> <li>5. Cost estimates of analysis &amp; resolution</li> <li>6. Measures of changes to performance resulting from resolution.</li> </ol>		
<b>1. CHECKLIST FOR RECORD OF ANALYZED DEFECTS AND RATIONALE FOR DECISION AND/OR COLLECT &amp; ANALYZE IMPROVEMENT PROPOSALS</b>		
<p>A) IDENTIFY RELEVANT DEFECT DATA AND/OR IMPROVEMENT PROPOSAL DATA TO BE COLLECTED <i>(Project operating according to a well-defined process will systematically analyze the operation where problems still occur, and implement process changes to eliminate root causes of selected problems)</i></p> <p>1.A.1 <input type="checkbox"/> Customer reported defect or process performance issues                      1.A.2 <input type="checkbox"/> End user reported defect or process performance issues                      1.A.3 <input type="checkbox"/> Peer Review reported defect that are systemic or significant                      1.A.4 <input type="checkbox"/> Testing reported defects that are systemic or significant                      1.A.5 <input type="checkbox"/> Process Capability problem                      1.A.6 <input type="checkbox"/> Project management reported problem that are systemic or significant                      1.A.7 <input type="checkbox"/> Appraisal findings                      1.A.8 <input type="checkbox"/> Audit Reports                      1.A.9 <input type="checkbox"/> Customer Requests                      1.A.10 <input type="checkbox"/> Employee/stakeholder suggestions                      1.A.11 <input type="checkbox"/> Lessons learned                      1.A.12 <input type="checkbox"/> Issues in measurement data that are systemic or significant                      1.A.13 <input type="checkbox"/> Quantitative Management Results related to significant special causes of variation                      1.A.14 <input type="checkbox"/> Proposals based on strategic direction (e.g. AOP and SOF goals driven from Long Range Strategic Plan)                      1.A.15 <input type="checkbox"/> Proposals based on processes or subprocesses performance improvements (e.g. using process performance models (PPMs) and/or process performance baselines (PPBs) to identify and analyze the standard process).                      1.A.16 <input type="checkbox"/> Incremental improvements from a quantitative understanding of the organizations performance                      1.A.17 <input type="checkbox"/> Other – Describe:</p> <p>B) SELECTED METHOD(S) TO PRIORITIZE AND DETERMINE WHAT DEFECTS AND/OR IMPROVEMENT PROPOSALS TO ANALYZE <i>(Determine impact, frequency, cost, etc.)</i></p> <p>1.B.1 <input type="checkbox"/> Pareto                      1.B.2 <input type="checkbox"/> Histogram                      1.B.3 <input type="checkbox"/> Process Capability analysis                      1.B.4 <input type="checkbox"/> Value stream map (VSM)                      1.B.5 <input type="checkbox"/> Failure modes and effects analysis (FMEA)                      1.B.6 <input type="checkbox"/> Analysis of clusters of similar defects or problems from quantitatively managed processes and subprocesses                      1.B.7 <input type="checkbox"/> Use of process performance models (PPMs) to understand the relationship of processes or subprocesses to higher level processes and objectives, and to predict impact and calculation of cost benefits                      1.B.8 <input type="checkbox"/> Identify and prioritize based on potential barriers and risks to deploying each proposal                      1.B.9 <input type="checkbox"/> Consideration of how the improvement will benefit the project over time (expected life span of proposal)                      1.B.10 <input type="checkbox"/> Other – Describe: Reported defects in lessons learned by end users</p>		
<p style="text-align: center;">W2-F003 (3-09) NORTHROP GRUMMAN PAGE 1 OF 4</p>		

Document the Issue, Problem or Opportunity

# Success Is in the Details - 2

Process performance impacts



Approach for root cause analysis



Root cause



Preventive & corrective actions



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**2. CHECKLIST FOR IMPLEMENTATION – STEPS TO PERFORM CAR / OI&D & DEVELOP ACTION PROPOSAL**

A) SELECTING APPLICABLE CIRCUMSTANCES REQUIRING PERFORMANCE OF CAR AND/OR OI&D

2.A.1  A stable process doesn't meet specified quality and process performance objectives  
 2.A.2  Work product exhibits unexpected deviation from its requirements  
 2.A.3  During task, if and when problems warrant additional meetings  
 2.A.4  Other – Describe:

B) SELECTING METHOD(S) FOR ANALYZING SELECTED DEFECTS AND OTHER PROBLEMS TO DETERMINE ROOT CAUSES AND/OR EVALUATE IMPROVEMENT PROPOSALS  
*(Depending on type and number of defects it may make sense to group defects before identifying root causes.)*

2.B.1  Cause and Effect (Fishbone) diagram  
 2.B.2  Check sheets  
 2.B.3  Analysis of process performance baselines (PPBs) for performance attributes  
 2.B.4  Analysis of process performance models (PPMs) (e.g. process decomposition mappings) to predict effects of the change to the process, the potential benefits, evaluation of side effects, and/or evaluating the effects of multiple interrelated improvement proposals  
 2.B.5  Value stream map (VSM)  
 2.B.6  Other – Describe: Brainstorming with SMEs to determine defect types, issues etc.

C) GROUPING TOGETHER SELECTED DEFECTS OR OTHER PROBLEMS AND/OR IMPROVEMENT PROPOSALS BASED ON THEIR ROOT CAUSES

2.C.1  Inadequate training  
 2.C.2  Breakdown of communication  
 2.C.3  Not accounting for all details of the task  
 2.C.4  Making mistake in manual procedure (e.g. typing)  
 2.C.5  Process deficiency  
 2.C.6  Other – Describe:

D) PROPOSE AND DOCUMENT ACTIONS NEEDED TO PREVENT FUTURE OCCURENCE OF SIMILAR DEFECTS OR OTHER PROBLEMS AND/OR IMPROVEMENT PROPOSALS

2.D.1  Changes to the process in question  
 2.D.2  Changes to training  
 2.D.3  Changes to tools  
 2.D.4  Changes to methods  
 2.D.5  Changes to communications  
 2.D.6  Changes to work products  
 2.D.7  Other – Describe:

W2-F003 (3-09) NORTHROP GRUMMAN PAGE 2 OF 4

Investigate the Root Cause

# Success Is in the Details - 3

Details of any pilot



Proposal summary



Life cycle impacts



Implementation & evaluation description



Detailed action items



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**3. ACTION PROPOSAL**  
NOTE: If conducting a process improvement activity (Organizational Innovation & Deployment) instead of Causal Analysis and Resolution (CAR), it may be required to execute some of the activities in steps 3-6 on a pilot first before deploying to the organization. This can be done on a test project, or through other techniques such as simulation or modeling the improvement. For improvement proposals that may represent a significant, high risk, or irrevocable change to processes or tools, piloting the improvement may be required. For proposed improvements that are conservative, low risk, or can be abandoned in favor of the original process, piloting the improvement may not be required.

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DESCRIPTION OF THE PILOT (Only applicable to OID efforts that require a pilot)

3.A.1  Piloting the improvement on a test project  
 - Describe:

3.A.2  Simulating or modeling the improvement through the use of other statistical techniques  
 - Describe:

3.A.3  Other  
 - Describe:

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DESCRIPTION OF THE PROBLEM AND/OR IMPROVEMENT PROPSAL

---

PHASE OR PROCESS STEP WHEN PROBLEM/DEFECT AND/OR IMPROVEMENT OPPORTUNITY WAS IDENTIFIED

---

DESCRIPTION OF ACTION PROPOSAL (DOCUMENT CRITERIA FOR EVALUATING SUCCESS OR FAILURE OF CHANGE)

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**4. CHECKLIST FOR ACTION ITEMS RESULTING FROM ACTION PROPOSAL**

CAR/OID Action Items Form [W2-F002](#) filled out

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W2-F003 (3-09) NORTHROP GRUMMAN PAGE 3 OF 4

## Develop the Action Plan

# Success Is in the Details- 4

Cost & schedule to implement



Cost if not implemented



Measured performance change



Measured process capability



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<b>5. COST ESTIMATES OF ANALYSIS AND RESOLUTION</b>			
5.1 <input type="checkbox"/> Time and/or cost for identifying and correcting defect and/or identifying and implementing improvement. Provide details here:			
5.2 <input type="checkbox"/> Estimated cost of not fixing the problem and/or not implementing improvement.			
<b>6. EVALUATE EFFECTS OF CHANGES - MEASURES OF CHANGES TO PERFORMANCE RESULTING FROM RESOLUTION</b>			
A) MEASURE CHANGES IN PERFORMANCE OF PROJECTS DEFINED PROCESS <i>(Determine whether selected change positively influenced process performance and how much.)</i>			
6.A.1 <input type="checkbox"/> Change in defect density (i.e. change in mean on control chart)			
6.A.2 <input type="checkbox"/> Hypothesis testing, significance testing, or other statistical technique using a before and after process performance baseline (PPB) to determine if the change is statistically significant			
6.A.3 <input type="checkbox"/> Comparing the change to the process performance model (PPM) to see if predicted performance benefits were achieved			
6.A.4 <input type="checkbox"/> Use of a PPM to determine if the change will positively contribute to meeting downstream quality and other process performance objectives			
6.A.5 <input type="checkbox"/> Other – Describe:			
B) MEASURE CAPABILITY OF THE PROJECT'S DEFINED PROCESS <i>(Determine whether selected change has positively influenced ability of process to meet its quality and process-performance objectives as determined by stakeholders.)</i>			
6.B.1 <input type="checkbox"/> Change in ability of process to stay within process specification boundaries or improved process capability (e.g. represented by improved control limits on control chart.)			
6.B.2 <input type="checkbox"/> Other – Describe:			
<b>ORIGINATOR AND MANAGER INITIAL BELOW WHEN PROPOSAL SET</b>			
ORIGINATOR INITIALS	DATE	MANAGER INITIALS	DATE
W2-F003 (3-09)      NORTHROP GRUMMAN      PAGE 4 OF 4			

Define the Resources & Document the Results

# Market the Results



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**Engineering PMT Steering Committee**

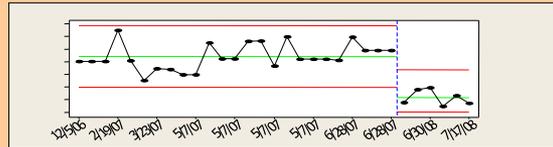
**Meeting #149**

08 September 2009

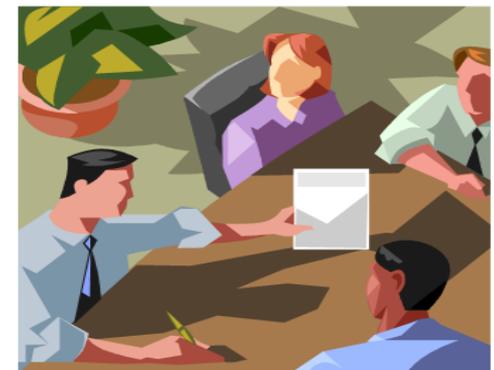
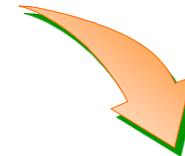
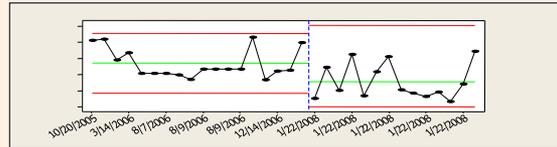
**Bob Tuthill/Joe Vandeville**  
Engineering Process Group  
Northrop Grumman Corporation



2008	Bring the Avionics Source Control Drawing (SCD) generation process under statistical control with a stable baseline	Number Hours Per Source Control Drawing	Melbourne & Bethpage	Avionics	AOP Cost Reduction - Improve Statistical Baseline	74% Reduction in Development of Source Control Drawing Development	14% BOE Reduction Taken
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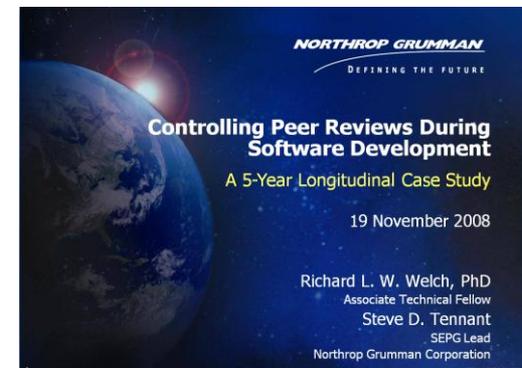
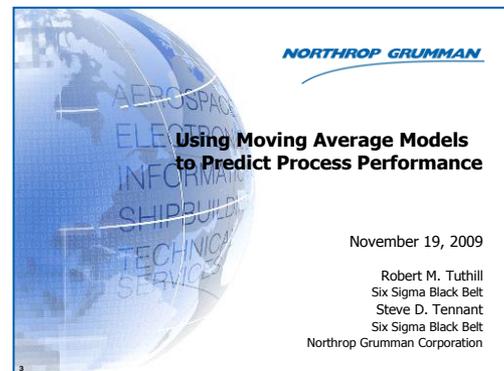
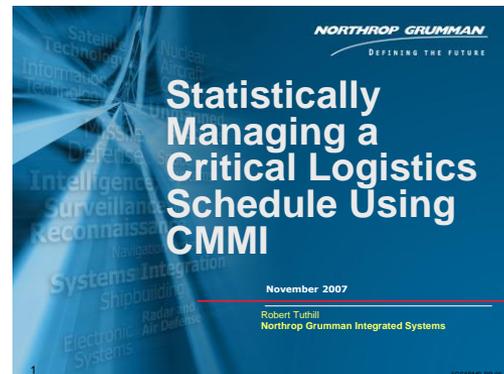
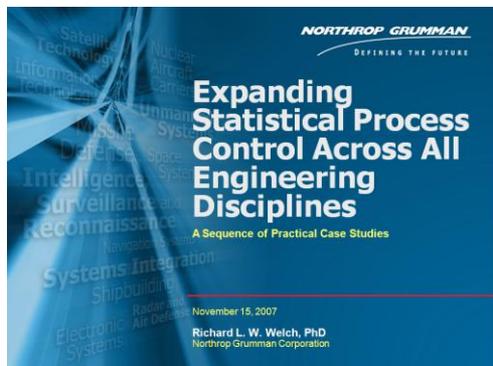
2008	Bring the Bench Test Procedure (BTP) generation process under statistical control with stable baseline	Number Hours Per Bench Test Procedure	Melbourne & Bethpage	Avionics	AOP Cost Reduction - Improve Statistical Baseline	42% Reduction in Development of Bench Test Procedures	8.2% BOE Reduction Taken
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**Keep Management Aware of the Value Provided**

# More Examples from Past CMMI Conferences

- Presentations can be found at the DTIC's NDIA Conference Proceedings web site
  - <http://www.dtic.mil/ndia/#s2009>



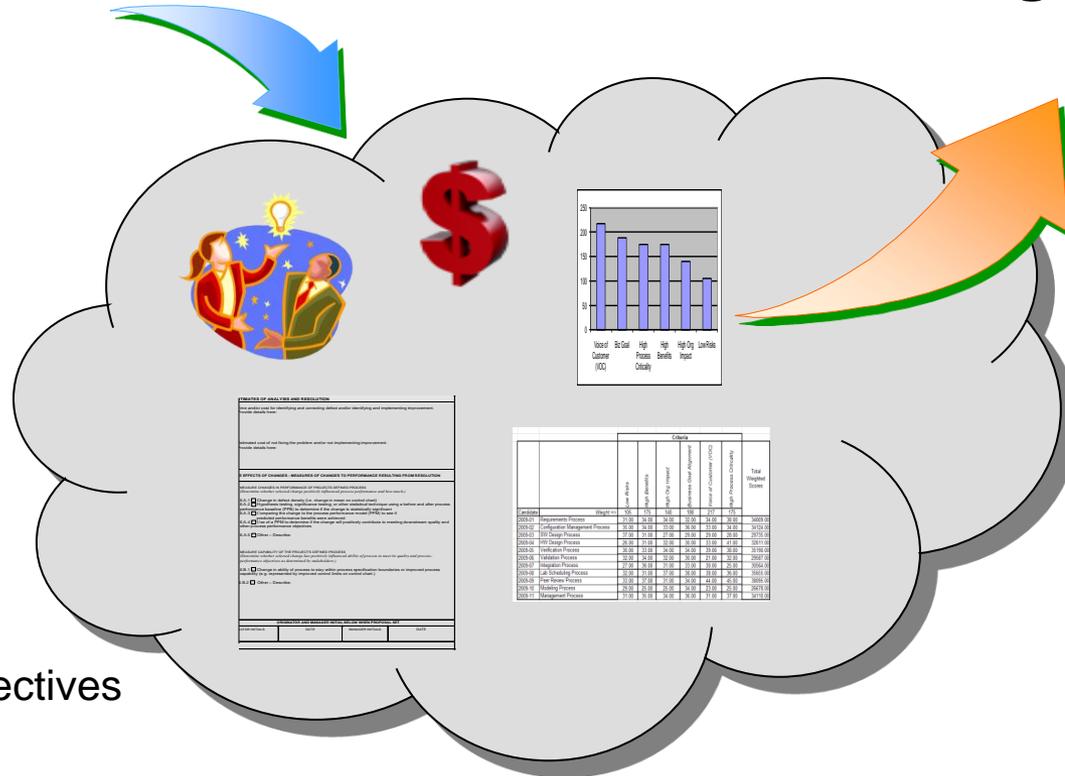
- Good                    Document the new process
- Better                  Publish & deliver new training
- Best                     Change your engineering rates



When Managers See Money, Making the Next Business Case Gets Easier

And you have this . . . . . You now can make the business case for High Maturity

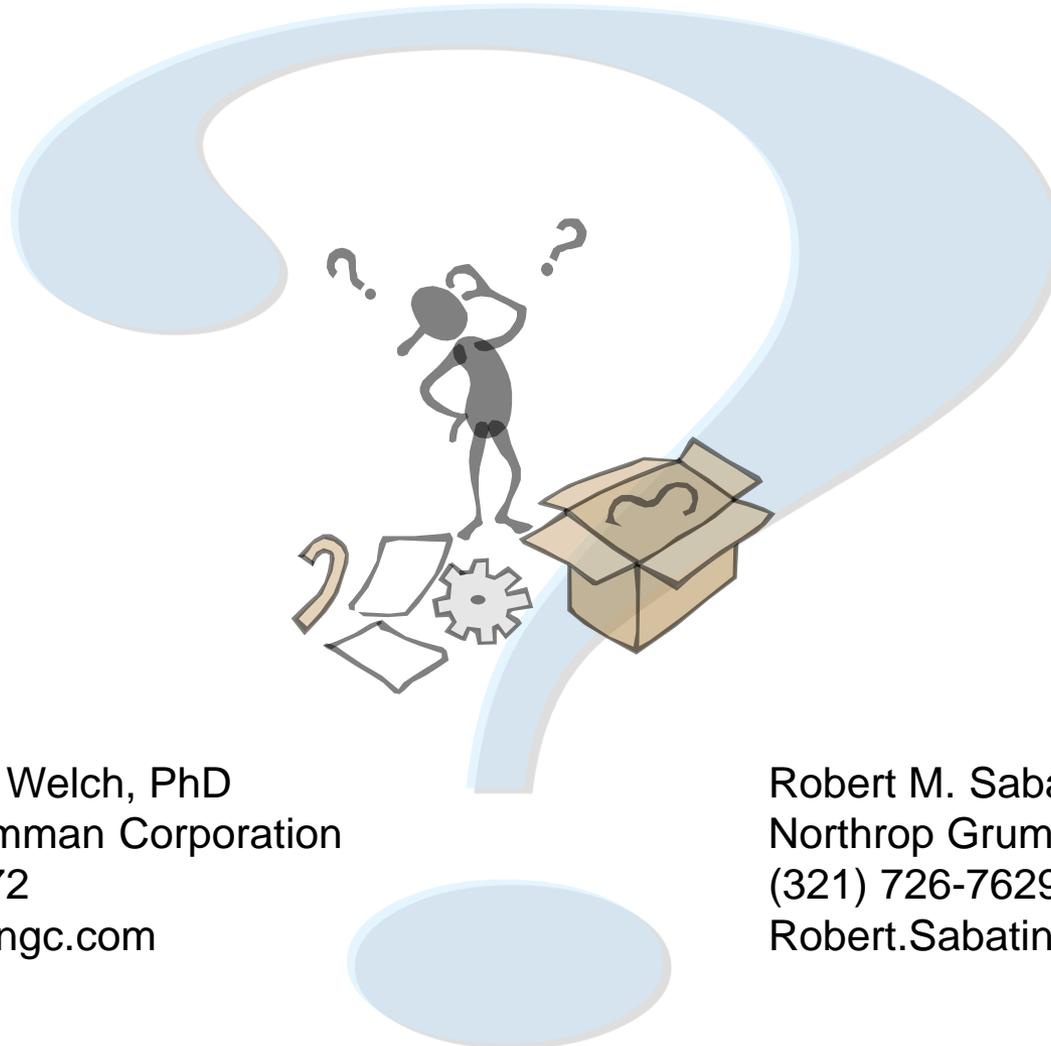
Given this . . . .



- Organizational Goals & Objectives
- Competing Resources
- Cost Constraints
- Competing Improvement Opportunities

## Results Sell

# QUESTIONS



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