

# Effective Technology Transition Strategies

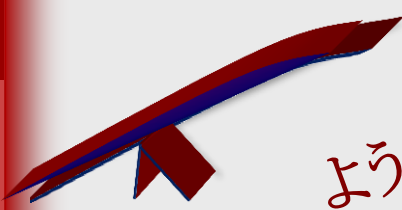
methodpark

Kasse Initiatives

CMMI Technology  
Conference 2010  
Nov 2010  
Denver, Colorado

**Tim Kasse**

**Kasse Initiatives LLC**  
**+1 - 972 - 987 - 7706 USA**  
**+45 72 19 42 18 Europe**



ようこそ

# Welcome

**WelKom**

**Huan Yín**

**Bienvenido**

**Bienvenue**

**Wilkommen**

**ΚΑΛΟΣ ΟΡΙΣΑΤΕ**

**Bienvenuto**

**Välkommen**

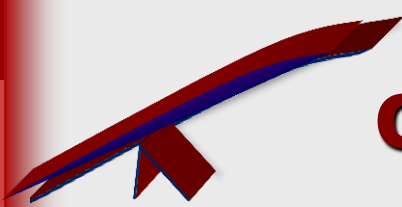
**Tervetuloa**

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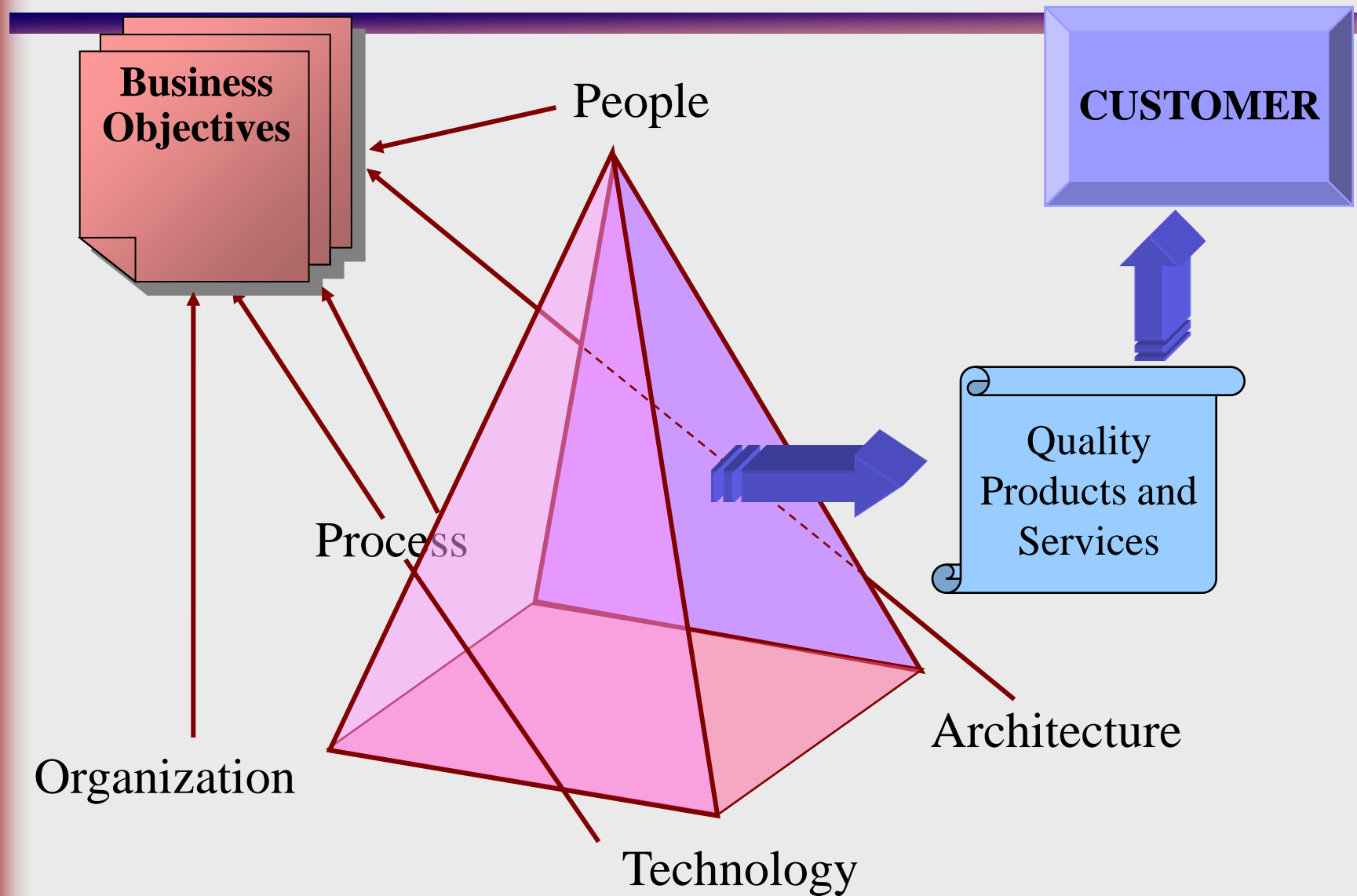
Pamela Rost – EVP Business  
Development Kasse Initiatives

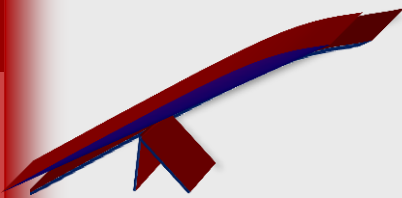


# General Definitions of Process

- ◆ Process – a sequence of steps performed for a given purpose (IEEE)
- ◆ Process – the logical organization of people, materials, energy, equipment, and procedures into work activities designed to produce a specified end result (From Pall, Gabriel A. Quality Process Management. Englewood Cliffs, N.J.: Prentice Hall, 1987.)

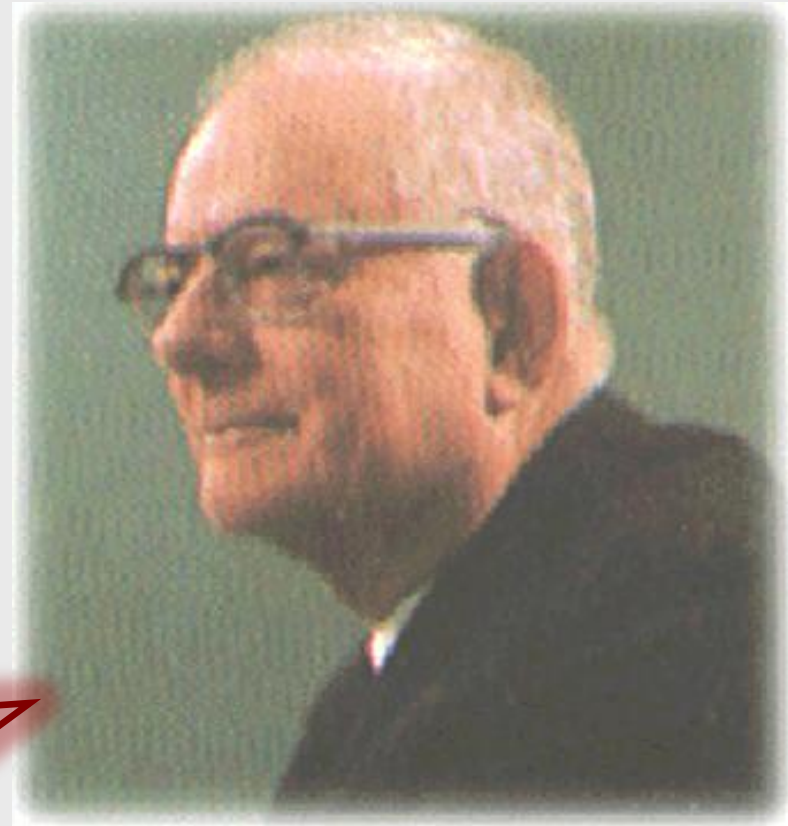
# Business Process Perspective





# Process Improvement for Business

◆ Process improvement should be done to help the business—not for its own sake.



“In God we trust,  
all others bring data.”  
- W. Edwards Deming



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# **Supporting Senior Management's Vision**

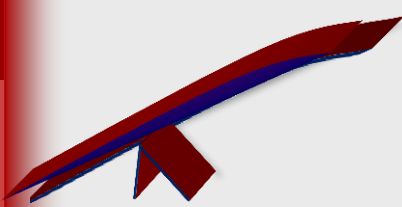


# Vision

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- ◇ The purpose of the visionary questions is to make sure that the improvement program is aligned with senior management's vision
  - ◇ Where does senior management think the organization will be in the next year, and in the next two to five years?
  - ◇ What products will be in the mainstream?
  - ◇ Who will the competitors be?
  - ◇ Where will the collaborators or strategic alliance partners come from?
    - ▢ From what industry will they come from?
  - ◇ What technology changes are expected and/or will be required to support the vision?

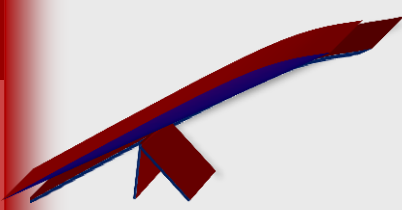




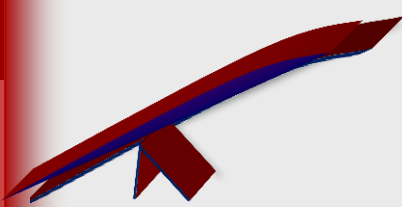
## Vision - 2

- ◇ What does the organizational structure have to be to support this vision?
- ◇ Who will the organization's suppliers be?
- ◇ What kind of organizational culture would you like to have to support this vision?
- ◇ What are the quality goals that are expected to be realized?
- ◇ How will a Process Improvement Initiative based on the CMMI and other related models and standards support this vision?
- ◇ What skills will your workforce need to support the vision?
- ◇ What skills will you as the Senior Management Team need to support the vision?





# **Supporting the Organization's Business Objectives**



# Business Objectives

- ◆ For a focus on Process Improvement to be successful, it must be tied to the organization's business objectives:
  - ◆ What are the organization's highest priorities?
  - ◆ What business consequences have resulted from weak or ineffective focus on quality management functions?
  - ◆ What action is being taken to correct the cause?
  - ◆ How can a focus on Process Improvement support the organization's business objectives



# Business Objectives - 2

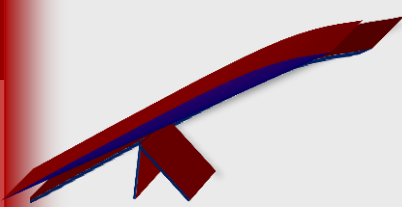
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## ◇ Examples of Business Objectives

- ◇ Reduce time to market
- ◇ Reduce system errors that are discovered by customers
- ◇ Improve delivery time
- ◇ Increase quality of products
- ◇ Find and fix software defects once and only once
- ◇ Reduce project risks
- ◇ Gain control of suppliers
- ◇ Improve service delivery
- ◇ Improve service availability and capacity
- ◇ Shorten find to fix repair rate



# **Supporting the Organization's Measurement Objectives**

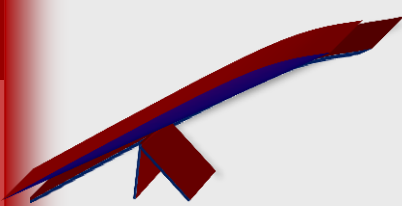


# Measurement Objectives

- ◆ While establishing measurement objectives, a project/organization should:
  - ◆ **Document the purposes** for which measurement and analysis is done
    - What is the information needed?
    - Are measures available to satisfy the information needed?
    - Is the frequency of the collection of the base measure high enough?
  - ◆ **Specify the kinds of actions** that may be taken based on the results of the data analyses
  - ◆ Ensure **business objectives** and **measurement objectives** are developed with clear “WHYs” this measure will support the business and quality goals of the project and organization



# **Helping Project Leaders to Manage and Control Better**



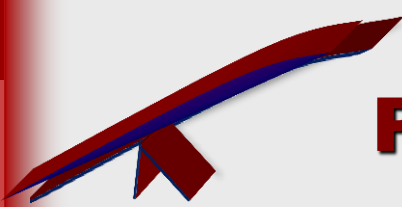
# Process Improvement: What Value to Project Leaders?

- ◇ What measurable value will the quality management initiative bring to the project leaders who bear the line responsibility for product delivery?
  - ◇ More accurate schedules?
  - ◇ Higher productivity of developers?
  - ◇ Better quality products?
  - ◇ Traceable requirements?
  - ◇ Controlled configuration items?
  - ◇ Reviews focused on critical components?
  - ◇ Better control of suppliers?
  - ◇ Reduction in potential risks?





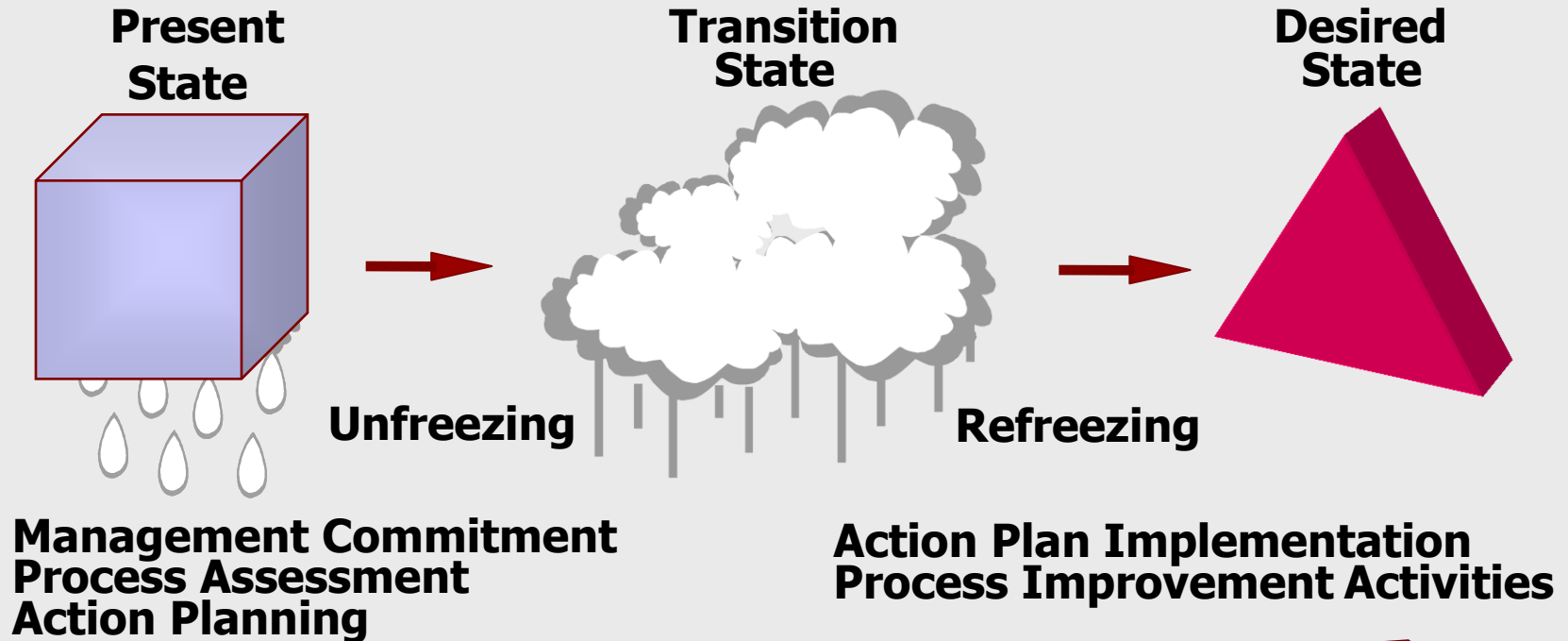
# **Process Improvement Means Change**



# Principles of Process Change

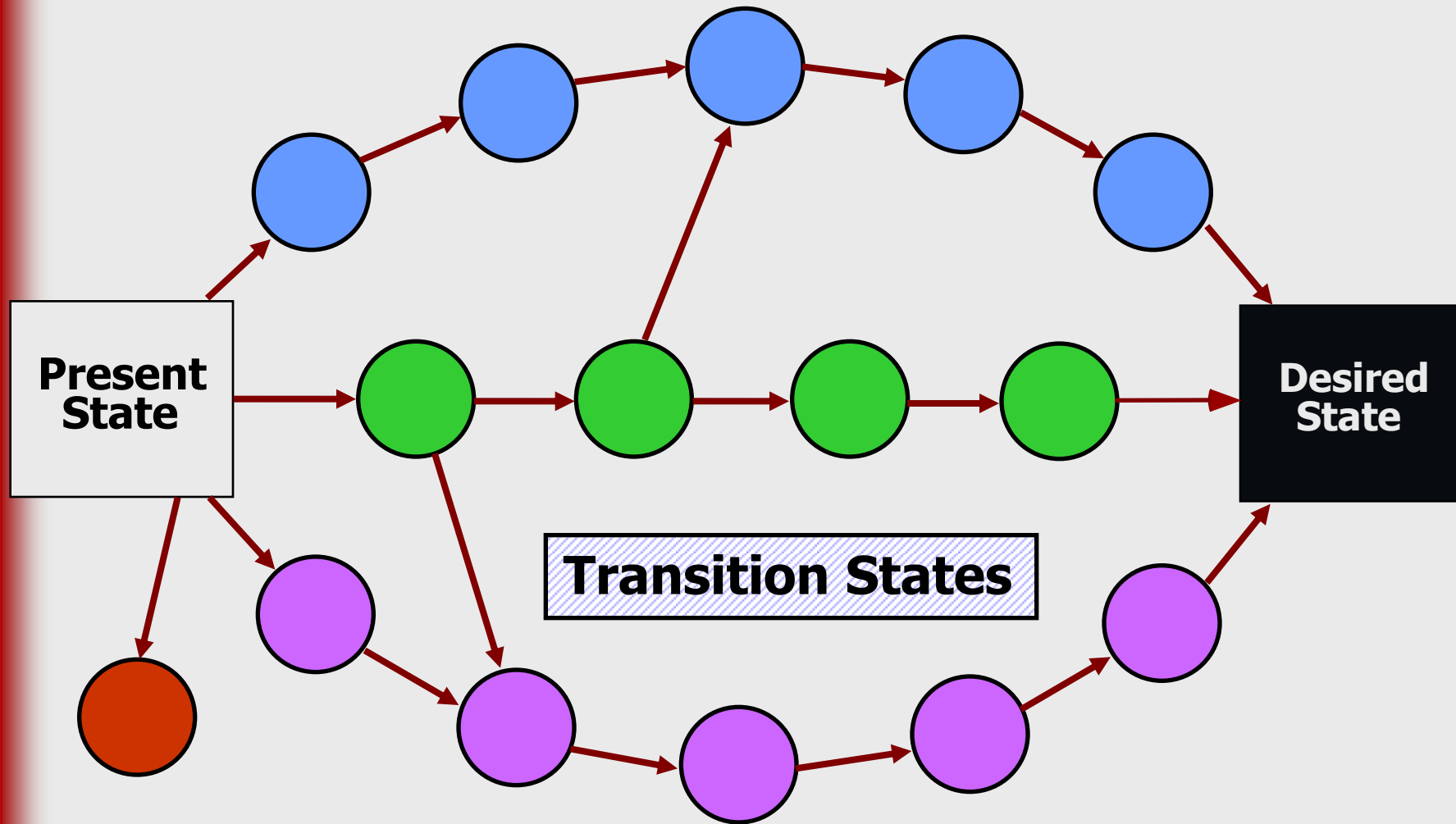
- ◆ Major changes must be sponsored by Senior Management
- ◆ Focus on fixing the process, not assigning the blame
- ◆ Understand current process first
- ◆ Change is continuous
- ◆ Improvement requires investment
- ◆ Retaining improvement requires periodic reinforcement

# A Simple Change Model

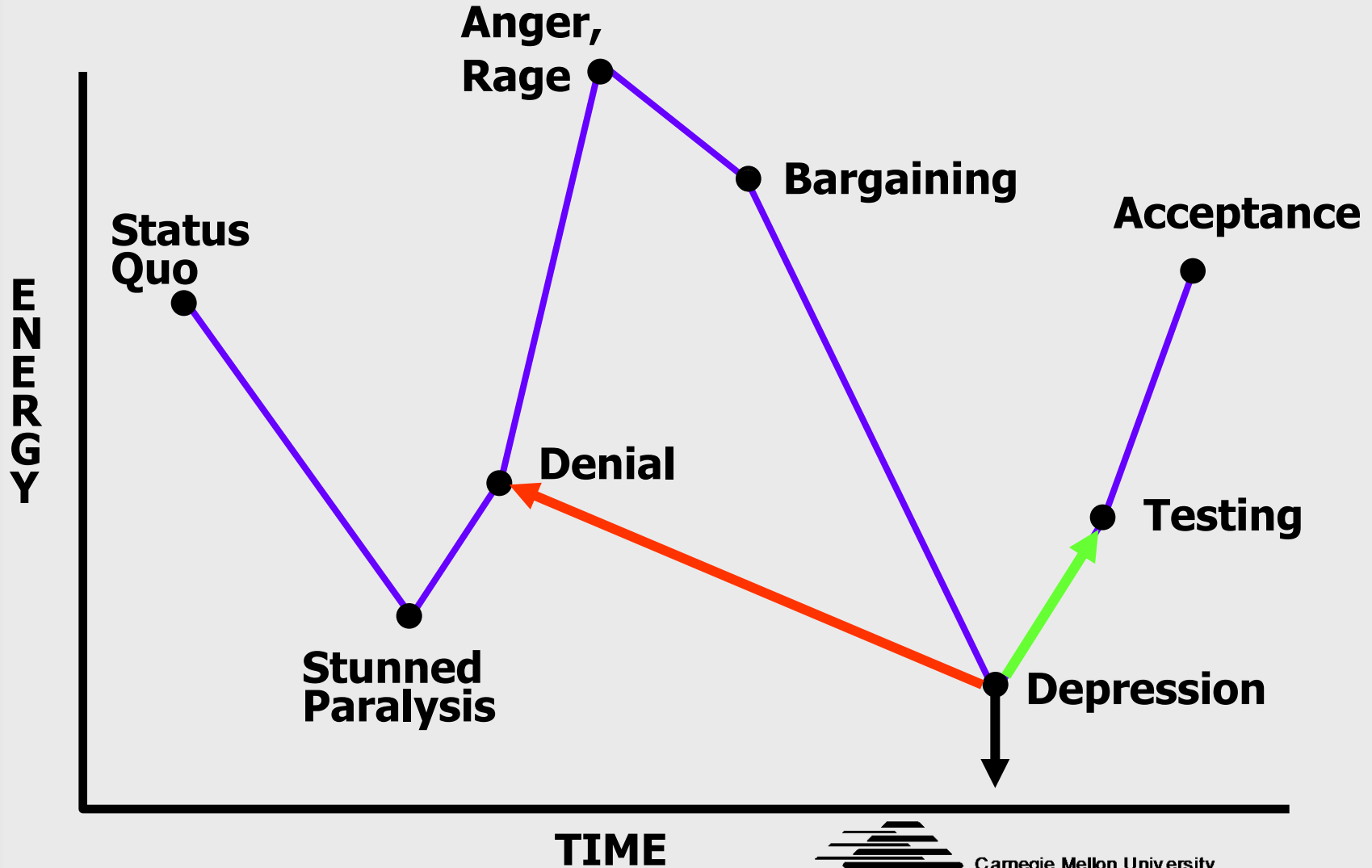


Carnegie Mellon University  
Software Engineering Institute

# A Sample Change Model

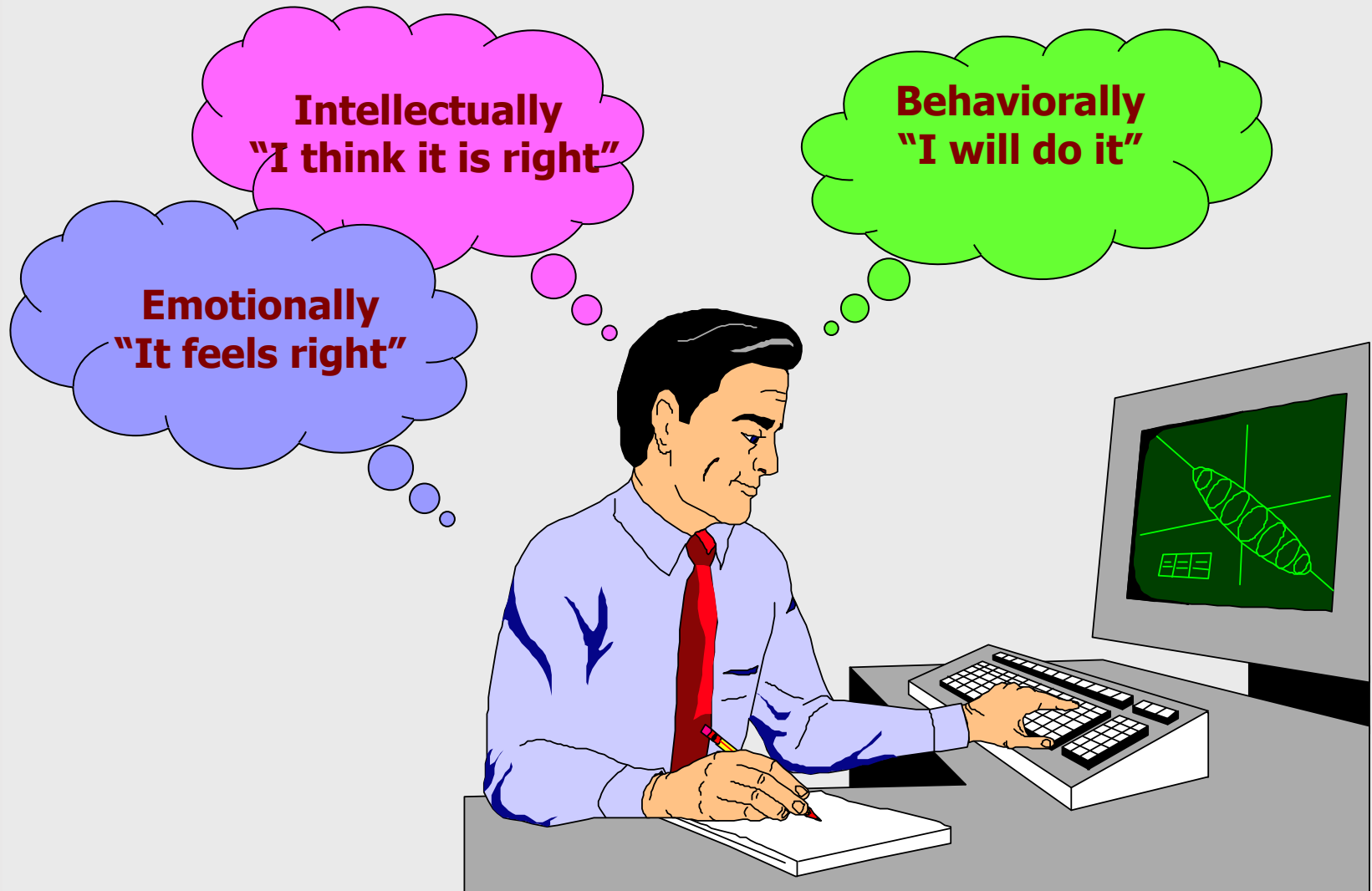


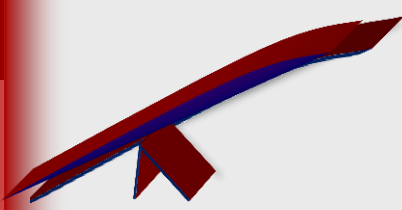
# The Response to Change



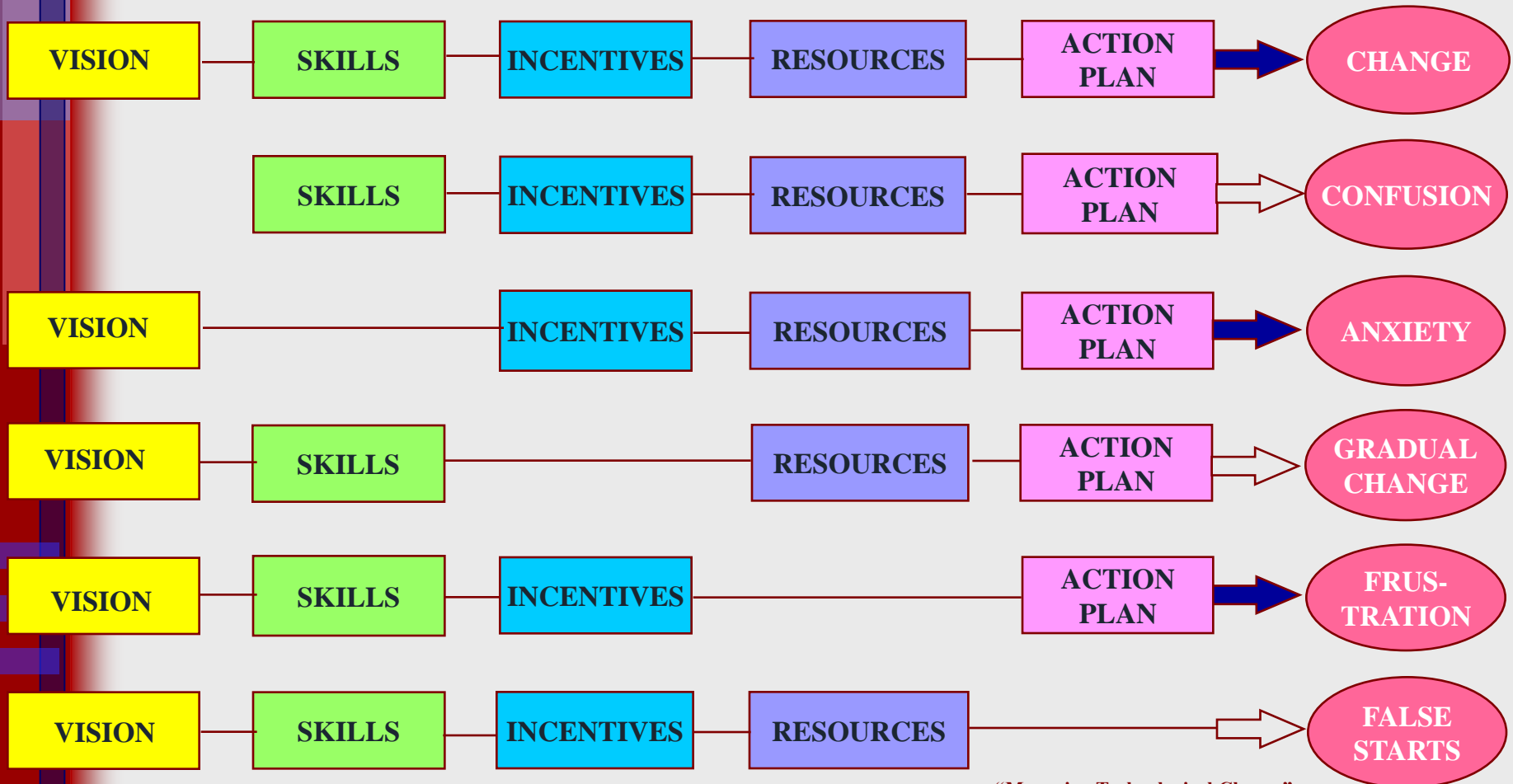
Carnegie Mellon University  
Software Engineering Institute

# Three Ways People Respond To Change





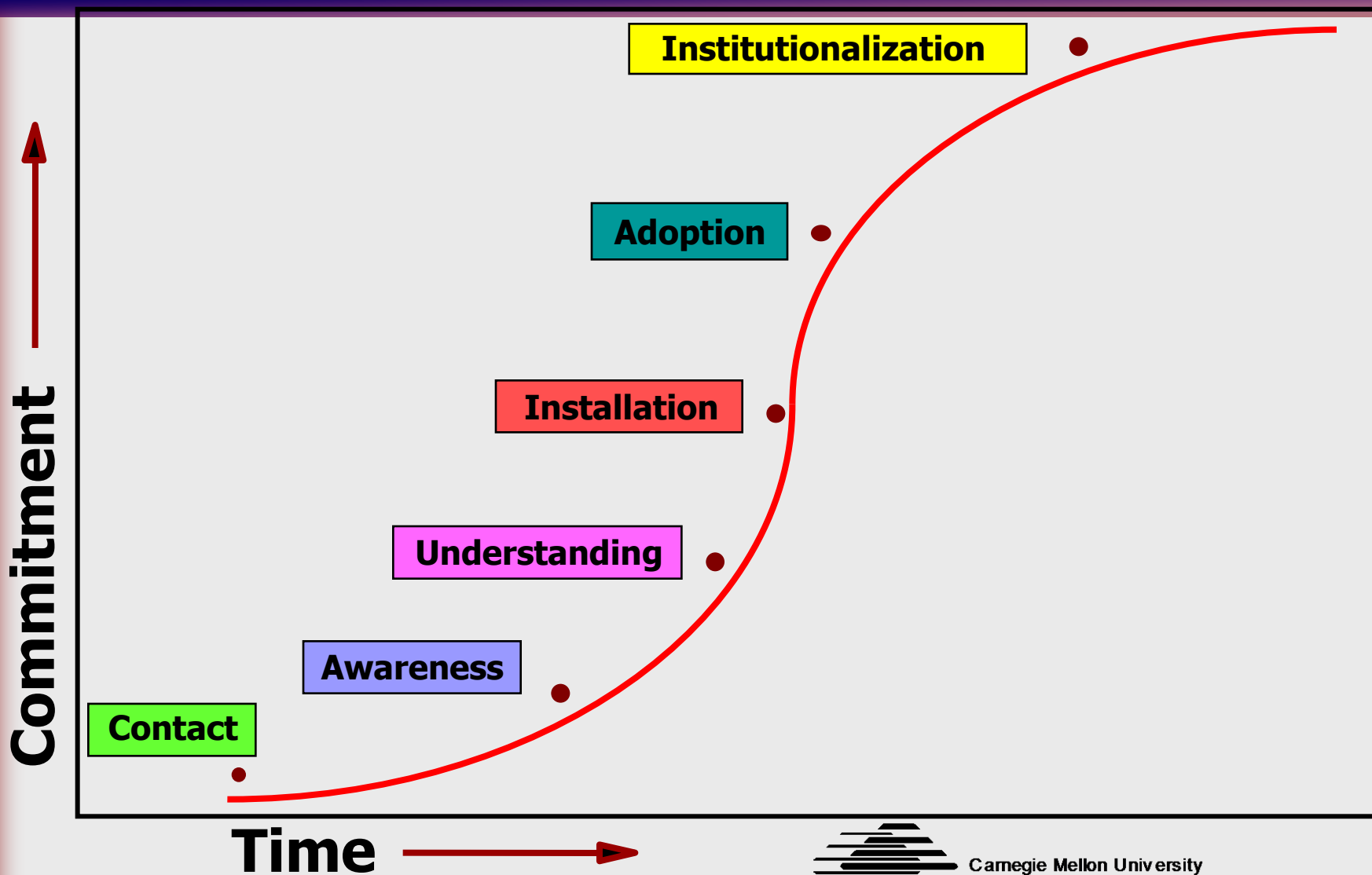
# Managing Complex Change Requirements



“Managing Technological Change”  
Carnegie Mellon University  
Software Engineering Institute

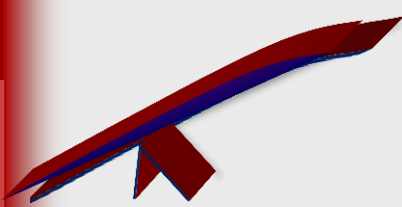


# Commitment is a Phased Process





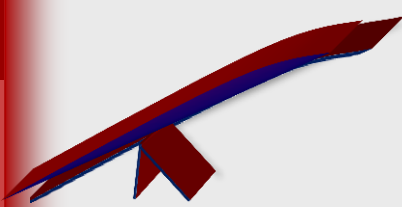
# **Laws of Organizational Change**



# The “Laws” of Organizational Change

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- ◆ Most teamwork involves change, and change is seldom easy
- ◆ It is unlikely that anyone will successfully change an organization without first asking its people to change as well



# People Don't Resist Change

- ◆ People don't resist change – they resist being changed
- ◆ Arbitrary mandates to change normally result in people digging in their heels in resistance regardless if they recognize the change is good for them or not
- ◆ If you want cooperation ask for other's opinions:
  - ◆ What do they want to happen?
  - ◆ What do they fear?
  - ◆ What suggestions do they have to ensure the success of the effort



# People Don't Resist Change - 2

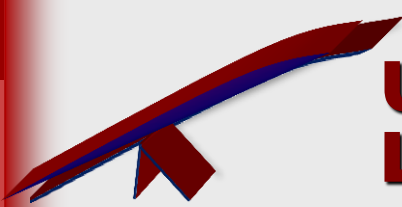
- ◇ Communicate often
- ◇ Listen more
- ◇ Seek to develop a “shared vision” of the future state
  - ▢ Communicate clearly and regularly why things must change
  - ▢ Describe your vision for the change
  - ▢ Clearly describe the first steps to be taken
  - ▢ Link the team’s work and the vision for change
- ◇ Seek answers to the question, “How will things be different?”
- ◇ How will it be determined or measured if we have changed or not?
- ◇ Link the suggested change to the business objectives



# Things Are the Way They Are Simply Because They Got That Way

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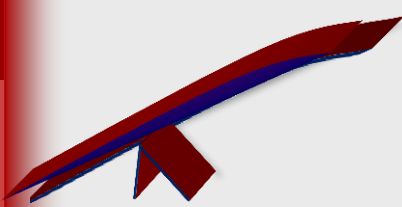
- ◆ Somebody wrote the policy and procedures based on their best information and understanding of the environment, competition, culture, opportunities, constraints etc.
- ◆ Somebody decided to try and follow the policies and procedures or decided not to for a personal or professional reason
- ◆ Before you attempt to change something, first take time to understand the history behind the problem



# Unless Things Change, They Are Likely To Remain the Same

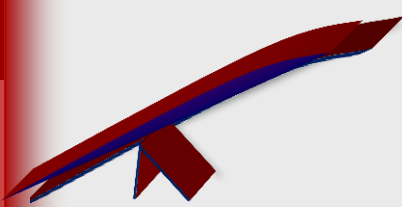
- ◆ If you want improvement, people will need to change the way they work
  - ◆ The change may be small and seemingly insignificant
  - ◆ The change may be large and irreversible
  - ◆ **Satellite Company Example**
- ◆ Avoid “Tampering” - Overreacting to a problem or mistake without fully understanding the causes of the problem or error
  - ◆ Tampering often leads to higher costs and more errors – the opposite of what is desired for the business





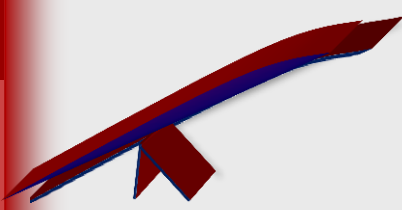
# Change Would Be Easy if it Weren't For All of those People

- ◆ Management would be easy if it weren't for the employees
- ◆ We could satisfy the requirements if the customer would just decide what it wanted and stop making changes
- ◆ Bottom Line Message – People are the organization and the organization is for the customers and end users
  - ◆ We must pay attention to the people as well as the systems or technical process we build
  - ◆ Managers play a key role in creating empowered teams or describing the key role of the project



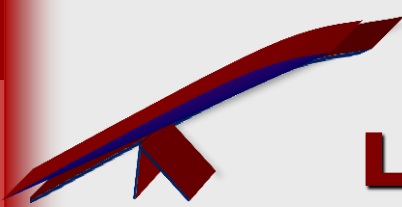
# Leading Change

- ◇ Change is a physical event so it should not be surprising that many people have strong reactions to it
- ◇ Team leaders or change agents should allow team members and others who are being asked to change to think about and come up with individual answers to the following questions:
  - ◇ What am I giving up?
  - ◇ What's in it for me?
  - ◇ How will the new process make it easier and more efficient to perform my job?



## Leading Change - 2

- ◇ What information of skills do I need to be successful in the new process / environment
  - ▢ This may need to be repeated many times until people can absorb and translate the change into new tasks
- ◇ What happens if I have trouble changing?
  - ▢ Be honest!
- ◇ How do I go about making changes?
  - ▢ Developing action plans with those who must implement them goes a long ways to achieving the desired change
- ◇ How will I know how I'm doing?

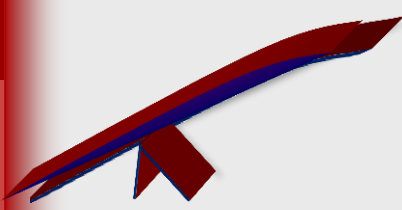


# Summary

## Laws of Organizational Change

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- ◇ Change does not happen overnight
- ◇ People must be given sufficient time to change and supported along the way



# **SEPG and the Consulting Process**



# Module Objectives

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- ◆ Discuss the SEPG as “Internal” Consultants
- ◆ Review the skill set needed by SEPG members
- ◆ Review the Six (6) Step Consulting Model proposed for internal consultants

# 1 Commitment

Sponsorship

Visioning

Identification of Initial Staff

Expectation Setting

Investigation and Training

# 2 Appraisal

Form and Train Team

Gather Process Data

Synthesize Findings

Present Findings & Recs

Guidance for Action Planning

**Process Improvement Model: Detail**

Define & Staff Improvement Infrastructure

Train Improvement Staff

Plan Improvement Process

# 3 Infrastructure

Institutionalize new processes

Assist in adoption of new processes

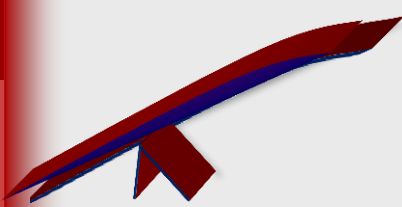
Refine new processes

Pilot new processes

Define new processes

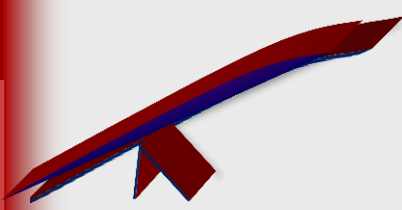
# 4 Implementation





# The SEPG as a Group of Consultants

- ◆ “You are consulting anytime you are trying to change or improve a situation but have no direct control over the implementation. If you have direct control, you are managing, not consulting.”
- ◆ If you do all the work, you are under someone else’s control
- ◆ Consulting is about having leverage and impact when we don’t have direct control
- ◆ The SEPG consults as facilitator and collaborator



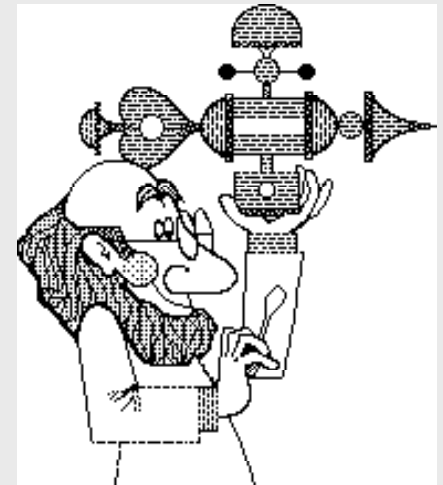
# **Skill Sets Needed by Consultants**

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- ◆ Technical Expertise
- ◆ Interpersonal Skills
- ◆ Consulting Process

# Technical Expertise

- ◆ Systems / Software management is not the same as system / software Process management.
- ◆ Useful areas of technical expertise for SEPG members:
  - ◆ Process definition and modeling
  - ◆ QA, CM, Test, Architecture, Systems Engineering, TQM, methodologies, application domains
  - ◆ Project Management including Risk Management
  - ◆ Measurement
  - ◆ Organizational behavior, systems theory

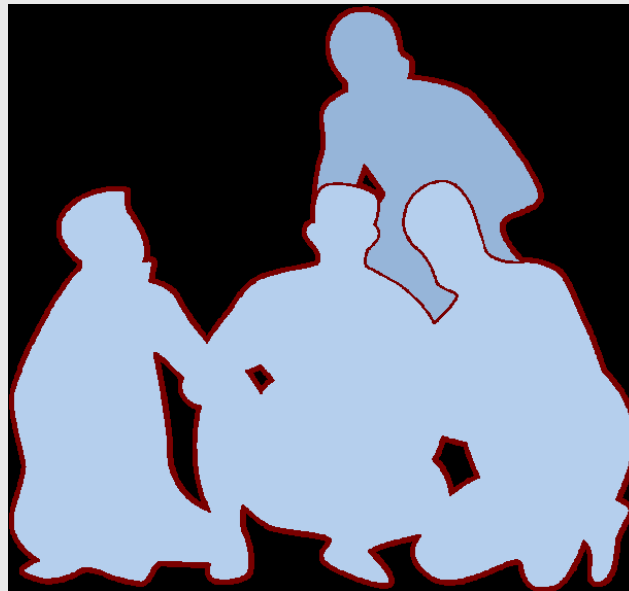


# Interpersonal Skills

**Effective listening**

**Facilitation**

**Team building**

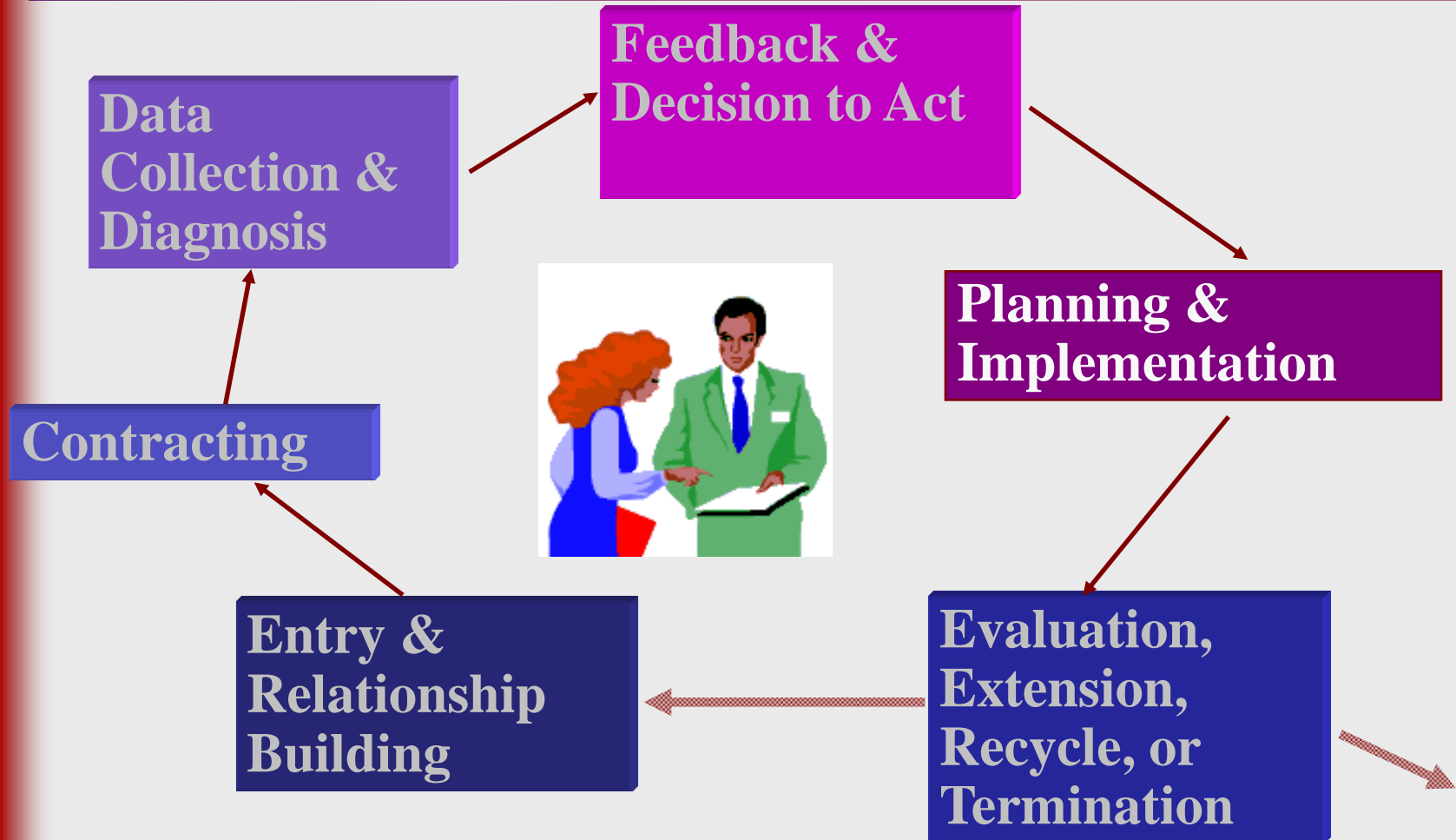


**Meeting management**

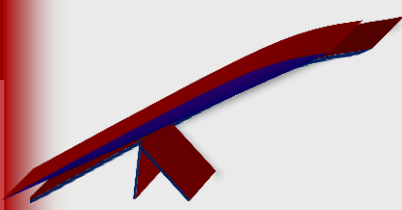
**Conflict management**

**Group process**

# The 6-Step Consulting Model



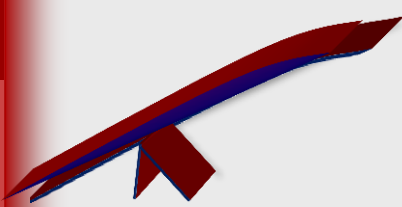
Source: adapted from P. Block, Flawless Consulting, and Participant's Guide, SEI Collaborative Consulting Skills class



# Entry & Sensing

- ◆ **Purpose:** Build the foundation for an authentic working relationship
  - ◆ Establish a trusting relationship
  - ◆ Learn what must be done to get a contract in place
- ◆ **Process:** Initial meetings between client and consultant
  - ◆ Understand and sense the client's expectations
- ◆ **Outcome:** Decision of whether you and the client are going to proceed and how you will do so

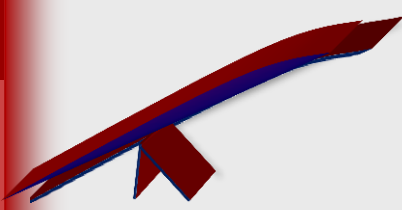
Source: adapted from Participant's Guide, SEI Collaborative Consulting Skills class



# Contracting

- ◆ **Purpose:** Gain explicit agreement of what is expected of each other
  - ◆ Gain explicit agreement on how you and the client are going to work together
- ◆ **Process:** Meetings with clients, including stakeholders, and consultant
  - ◆ Make clear that you need the client's continuing support and what you can offer as the consultant
- ◆ **Outcome:** An explicit contract in which you agree on the project objectives/outcomes, expectations of each other, project plan or process, membership and roles, milestones, and completion dates

**Source:** adapted from *Participant's Guide, SEI Collaborative Consulting Skills class*

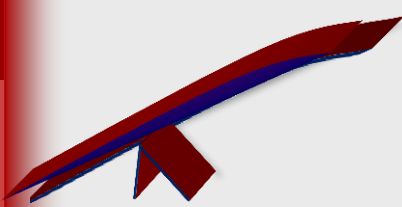


# Data Collection

- ◆ **Purpose:** To bring together existing relevant data that will define the client's problems clearly, energize the making of appropriate decisions
- ◆ **Process:** Data gathering and analysis
- ◆ **Outcome:** Data are collected to enable the client and key stakeholders to make informed decisions about process improvement strategies.

Source: adapted from Participant's Guide, SEI Collaborative Consulting Skills class

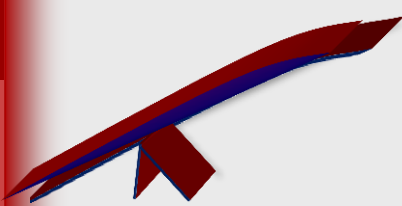




# Feedback & Decision to Act

- ◆ **Purpose:** To present a summary of the gathered information in a way which tells the story as you have seen and heard it
  - ◆ To create enough synergy within clients to stimulate useful problem solving and specific next steps
- ◆ **Process:** Presentation and decision making meeting(s) with all those who provided data
- ◆ **Outcome:** Decisions that shape specific intervention strategies are made by the client and consultant

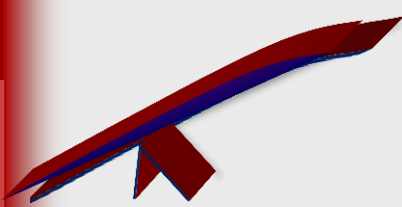
Source: adapted from Participant's Guide, SEI Collaborative Consulting Skills class



# Planning & Implementation

- ◆ **Purpose:** To gain agreement, commitment, and collaboration on the action plan
  - ◆ To build the project planning and monitoring structure to maintain constancy of purpose
- ◆ **Process:** Planning sessions with the client, key project members, key stakeholders, etc.
  - ◆ Education, training, and **feedback sessions** with all those involved
- ◆ **Outcome:** Resources are secured and organizational support, participation, and commitment to proceed are maintained
  - ◆ Tasks identified in the implementation plan are conducted and completed

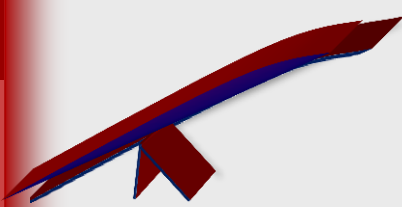
**Source:** adapted from *Participant's Guide*, SEI Collaborative Consulting Skills class



# Evaluation, Extension, Recycle, Termination

- ◆ **Purpose:** To gather feedback and evaluation of the consultant's behavior and the project's outcomes
  - ◆ To end or revise the client-consultant relationship
- ◆ **Process:** Feedback and evaluation meetings for the project and the consultant
  - ◆ Termination or contract revision meeting between client/consultant
- ◆ **Outcome:** For consultant, clear and concise feedback from the client's perspective on his/her effectiveness and/or contribution
  - ◆ For the organization, lessons learned for future cycles of process improvement

Source: adapted from Participant's Guide, SEI Collaborative Consulting Skills class



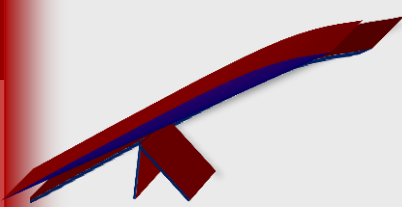
# Conveying of Information and Experience

## ◇ Providing **Training** in order

- ◇ To convey technical and organizational change concepts to individuals and groups who need to have an in-depth knowledge of the topics
- ◇ Training is not used by itself to transfer years of experience to the participants

## ◇ Providing **Mentoring**

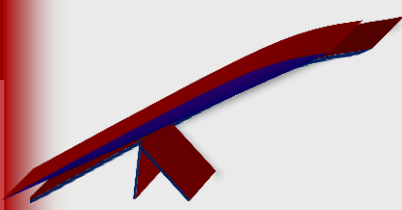
- ◇ To share with a select group of individuals the psychology and philosophy behind the concepts of training or of processes, procedures, guidelines, templates, etc.
- ◇ Mentoring sessions are set up with an Expert and up to 4 people who have been selected to be mentored
- ◇ Experiences and war stories are shared in order to bring about a sense of reality and understanding for the Client's people that are being mentored



# Conveying of Information and Experience - 2

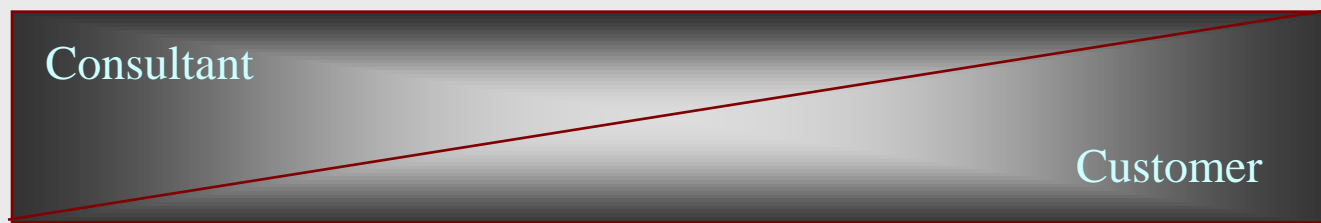
## ◇ On the Job Experience with Coaching

- ◇ For many companies, training is really reduced to On-the-Job-Training.
  - ▢ This usually translates into ‘trial by fire’.
- ◇ Providing coaching of individuals and small groups while they are working on the project usually allows them to see the practicality of the ideas in their everyday life
  - ▢ If individuals and projects can see the benefits and practicality for themselves, their willingness to try out the new or revised ideas increases



# Consulting Roles Are a Continuum

## Responsibility



Expert

Collaborative

Observer

## Consultant Role

Source: adapted from Participant's Guide, SEI Collaborative Consulting Skills class



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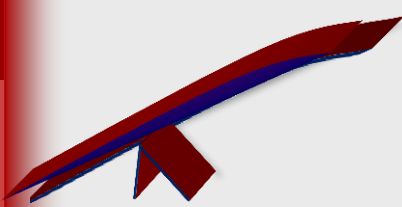
# **Getting Support for Process Improvement From Above and Below**

# Getting Support for Process Improvement From Above and Below- Objective

- ◆ Share ideas on how one can win support for process improvement from one's employees and one's managers



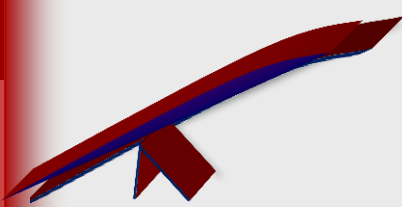




# Getting Support From Above and Below

## ◇ Below

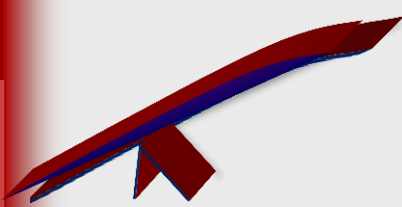
- ◇ Provide "visible" management support (not just indicate you are committed through memos - be willing to go the extra mile)
- ◇ Be willing to provide necessary training and education and plan to attend yourself
- ◇ Seek out your change advocates, listen to their ideas, and share your ideas with them
- ◇ Introduce process improvement activities in bite-sized chunks. Evolutionary not Revolutionary!
- ◇ Protect your people by making their involvement part of their job description



# Getting Support From Above and Below - 2

## ◇ Below

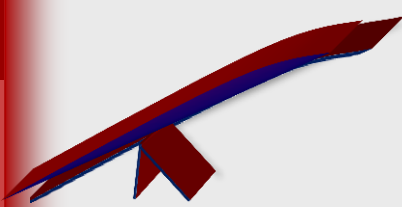
- ◇ Realize their productivity may decrease before it increases because they'll be trying new ideas
  - ▢ Bath tub effect
- ◇ Encourage overt resistance. If individuals are openly protesting, encourage them to do so and really try to listen to their point of view
- ◇ Let your people know, however, that you are personally committed to this process improvement effort and are interested in them contributing to make it successful



# Getting Support From Above and Below - 3

## ◇ Below

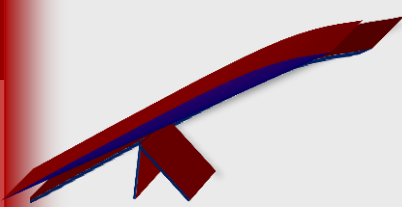
- ◇ Reward individuals and teams for following the processes, procedures, and standards and producing a quality product on time and within budget
- ◇ Hesitate to reward individuals or teams for "firefighting" due to poor processes, poor planning, or poor execution
  - ▢ Story of no reward for project following process with good results
- ◇ Hold periodic review meetings where the effectiveness of the process changes and the resulting product quality are discussed and where changes in direction may be made (not just a status reporting meeting)



# Getting Support From Above and Below - 4

## ◆ Above

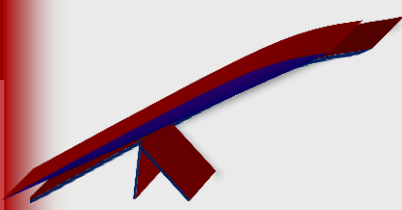
- ◆ Ensure upper level managers of your personal commitment and involvement in the process improvement effort
- ◆ Choose a small set of metrics to collect and report that will provide real information to the upper level managers (Vic Basili - Goal, Question, Metric, paradigm)
- ◆ Allow upper management to overtly protest
- ◆ Try to understand what it is they need that you are not providing them
  - SEI Watts Humphrey Story – Betty Deimel



# Getting Support From Above and Below - 5

## ◆ Above

- ◆ Ask for periodic review meetings to discuss process improvement and product quality
- ◆ Share your own project's successes/failures in implementing process improvement activities. Keep track of each participant's efforts
- ◆ Try to understand upper management's business goals and attempt to align your project's process improvement efforts to support those goals



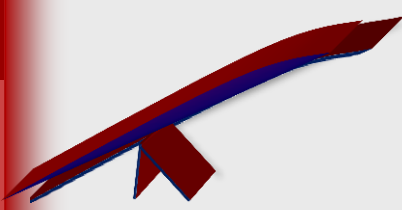
# Hand-Holding Support



# Having Multiple Personalities

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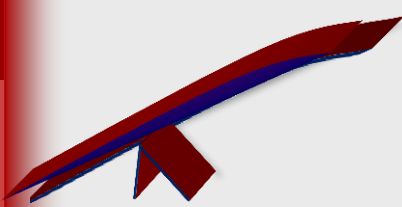
- ◆ To be effective in process improvement and quality management it helps to have multiple personalities
  - ◆ Personality 1 – These are the processes and rules and YOU WILL follow them in order to achieve our process and product quality goals
  - ◆ Personality 2 – Forget about the rules, how can I help you do be successful in your current effort?
    - ☐ Evolutionary attitude



# Painting A House

- ◆ First house Tim Kasse bought in Arizona - 1978
- ◆ Cowboy neighbor – hated men with long hair
- ◆ TK – no experience in painting
- ◆ Started project without significant preparation – How hard can this be?
- ◆ After 30 minutes, neighbor who was professional painter came over to explain process
- ◆ Physically took TKs hand and showed him how to properly use a paint brush – 15 minutes
- ◆ Result – House was painted, quality job that would stand up against the weather and neighbor was happy





# Hand-Holding Support

## ◆ Motorola Emulator Project

- ◆ Project behind on schedule
- ◆ Quality Management Group provided resources to assist with Unit Test
- ◆ Preached strict following of the software development methodology and quality activities
- ◆ QM Engineers sat side-by-side with developers to perform Unit Testing
- ◆ Talked to developers and developed Unit Test Plan according to organizational standard processes
- ◆ Conducted the tests



# Hand-Holding Support - 2

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- ◇ Project was successful
- ◇ Vice-President was complimentary to the development team
- ◇ Development Project Manager asked Director of Quality Management if he would like to offer that support again
- ◇ NO! but we will help you understand the process we followed and support you in a collaborative way



# Hand-Holding Support - 3

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- ◆ Conducting Structured Walkthroughs – QM Team
  - ◆ Ensured all documents including the life-cycle work product that was to be reviewed and the associated standards were available to all reviewers
  - ◆ Did all of the training
  - ◆ Served as Moderator, Reviewer, Recorder, and Follow-up
  - ◆ Provided data analysis on major and minor defects
  - ◆ All development reviewers had to do was prepare and show up – the first time
  - ◆ Evolved from Expert to Collaborator to Observer as project members saw the results for themselves



# **Effective Technical Transition Strategies**

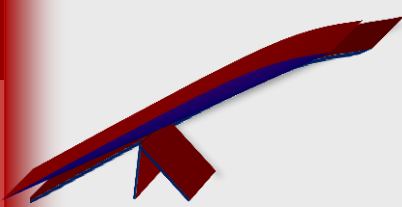


# Handling Non-Compliances

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## ◆ Handling Non-compliances

- ◆ Provide all non-compliances to the lowest possible level with suggestions for improvement
- ◆ Let all levels of practitioners and managers get angry over non-compliances then tried to offer rationale and suggestions
  - ▣ Requires process and quality representatives that are highly skilled technically and in interpersonal skills
- ◆ Escalate up to Senior Manager only if practitioner and all other levels of management rejected the non-conformance report and stated no correction would be carried out



# Provide Process Improvement Advice Based on Appraisal Results Not on the Desired Level

## ◆ Naval Air Warfare Center

- ◆ Developing software for sighting cannon on a battleship
- ◆ 60 people
- ◆ In the middle of a 2-year lifecycle
- ◆ Entering Integration and Systems Test
- ◆ Admiral in Washington DC demanding a CMMI ML2
- ◆ Assessment results show organization is ML1 with standard weaknesses in almost every ML2 process area
- ◆ As the External Consultant what do you advise this organization to do?



# Provide Process Improvement Advice Based on Appraisal Results Not on the Desired Level- 2

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## ◆ Naval Air Warfare Center - cont

- ◆ Focus on testing techniques and offer consulting support in integration and systems testing
- ◆ Add enough Configuration Management to control the configuration items that may change due to the testing effort
- ◆ Add enough Requirements Management to control any late requirement change requests
- ◆ Perform Peer Reviews on an ad hoc basis to ensure that any changes are at least reviewed before being implemented
- ◆ Perform some Quality Assurance to ensure that these activities are being done



# Testing

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## ◆ Testing

- ◆ Involve developers who are responsible for Unit Testing in reviewing the Systems Test plans and procedures
- ◆ Invite those who conduct Unit Tests to observe the Integration and Systems Testing activities
- ◆ Invite the Systems Testers to observe and support the developers in their Unit Testing activities





# Peer Reviews

- ◆ Institutionalized use of peer reviews in Chinese corporate culture
  - ◆ Overcame cultural barrier of “losing face” when a colleague would be presented with major defects in his/her lifecycle work product.
    - ☐ It took three major attempts and 3 years of mentoring, coaching and convincing to prove “everyone” in the organization would lose face if major defects were not found and eliminated before the product was shipped
    - ☐ The CIO declared this the most significant process improvement in his Chinese culture. Hong Kong housing development board asked the Singapore IT shop to teach them Peer Reviews and provide consulting support



## Peer Reviews - 2

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- ◆ Institutionalized use of peer reviews in Chinese corporate culture cont.
  - ◆ Provided Peer Review Training with a Case Study
  - ◆ Provided extra training for Moderators
  - ◆ Served as “coach” of a Peer Review and intervened throughout the face-to-face part of the Peer Review
  - ◆ Videotaped Peer Review sessions with coaching
  - ◆ Provided two additional Peer Review trainings with coaching over the 3 years
  - ◆ Finally got people to admit their unwillingness to submit major defects and cause their colleague to lose face
  - ◆ Convinced developers and managers that “everyone” in the organization would lose face if major defects were not found and eliminated before the product was shipped



# Configuration Management

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## ◆ Configuration Management

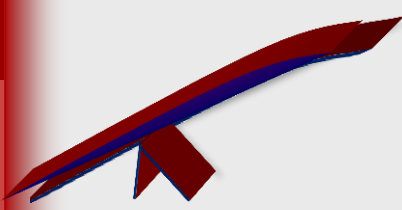
- ◆ Support project or developmental configuration control from the organizational control group if projects are too small to have their own Configuration Management Representative
- ◆ Help the transition from project control to organizational control at the designated points in the lifecycle
- ◆ Help the Project Manager to keep control on the evolving configuration items
  - ▮ Keep excellent change history records from which to issue periodic and on-demand Configuration Status Accounting Reports



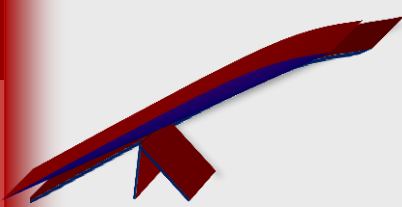
# Configuration Management - 2

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- Show PM how understanding of the frequency of work product changes can lead to the decision to use formal reviews such as Inspections or Structured Walkthroughs versus Informal Walkthroughs or Buddy Checks
- Provide baseline or milestone configuration audits to show Project Managers their project is meeting all requirements and approved requirements change requests and that all necessary hardware and software components plus corresponding documentation are reviewed and available or are in the process of being developed
  - Functional Configuration Audits
  - Physical Configuration Audits



# Measurement



# Establish Measurement Objectives

- ◇ While establishing measurement objectives, a project/organization should:
  - ◇ Document the purposes for which measurement and analysis is done
    - What is the information needed?
    - What questions are you answering with the data?
    - How will the measurements affect project behavior?
  - ◇ Specify the kinds of actions that may be taken based on the results of the data analyses
  - ◇ Continually ask the question – what value will this measurement be to those people who will be asked to supply the raw measurement data and who will receive the analyzed results – “Why are we measuring this?”
  - ◇ Maintain traceability of the proposed measurement objectives to the information needs and business objectives
- ◇ Ensure business objectives and measurement objectives are developed with clear “WHYs” this measure will support the business and quality goals of the project and organization



# Information Needs

## ◇ Information needs typically reflect:

### ◇ Management needs

- ▣ Established management objectives (Reduce errors found by customer)

### ◇ Technical needs

- ▣ Recurring technical problems

### ◇ Project needs

- ▣ Increase accuracy of estimation (Planning)
- ▣ Increase performance (Project performance constraints)

### ◇ Process improvement needs

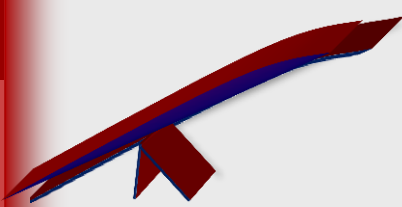
- ▣ Increase effectiveness of requirements elicitation process

### ◇ Product needs

- ▣ Reduce defect density of delivered software

### ◇ Customer requirements information needs

- ▣ Increase ability to meet customer requirements



# Measurement Objectives

- ◇ Based on the “information needs” derived Measurement Objectives for either the organization and/or the project may include:
  - ◇ Reduce time to delivery based on historical data indicating late delivery
  - ◇ Deliver specified functionality completely
  - ◇ Improve prior levels of quality
  - ◇ Improve levels of profit (keep project within or below budget)
  - ◇ Improve prior customer satisfaction ratings





# Measures

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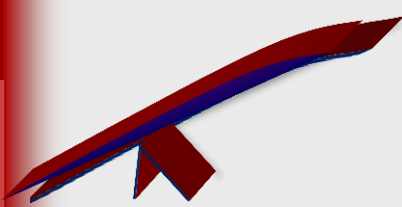
- ◆ Measures in line with these measurement objectives may include:
  - ◆ Normalized time in hours and tenths of an hour (actual time, size, and complexity)
  - ◆ Delivered functionality as a percentage of the functional requirements
  - ◆ Normalized defect density as the number of defects per 1000 lines of code
  - ◆ Normalized costs within stated limits
  - ◆ Customer satisfaction ratings based on averaged and normalized surveys



# Quantitative Measures

- ◇ Example Measurement Objectives for either the organization and/or the project with more emphasis on quantitative measures include:
  - ◇ Reduce time to delivery to a specified percentage
  - ◇ Reduce total lifecycle costs of new products by a percentage
  - ◇ Deliver specified functionality by a specified increased percentage
  - ◇ Improve prior customer satisfaction ratings by a specified percentage compared to past ratings
  - ◇ Improve prior levels of quality by reducing the number of defects of type A that get shipped with the product OR
  - ◇ Improve prior levels of quality by reducing the number of defects of type A that get shipped with the product without exceeding the delivery date by more than 10% and the budget by more than 8%

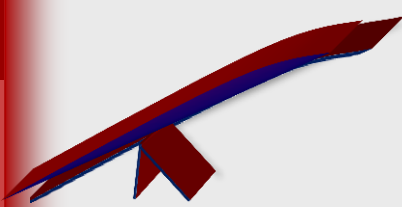
***The ability to reach and then predict reaching these quantitatively specified goals will increase as the organization increases in its process capabilities***



# Good to Best Practices

## ◆ Best Practices

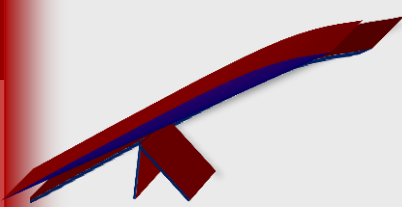
- ◆ Seek **good processes** on existing projects and making them best practices for all projects throughout the organization
- ◆ Motorola Microsystems Story of Adapting Assembly Language Coding Standards from a successful Project Manager



# Criticality

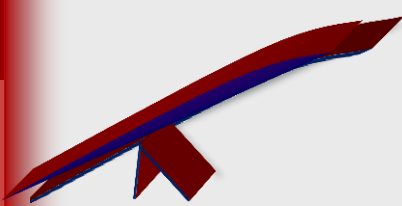
## ◆ Criticality

- ◆ Provide the strongest hand-holding support for critical projects to the organization and to those who want that help
- ◆ Ensure the success of each project that you work with and “circle the wagons” on the other projects that do not want to cooperate



# Summary

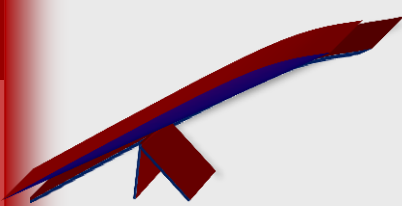
- ◆ Process improvement and quality management is not something that can be dictated in a memo or a “all hands” speech and then expected to happen
- ◆ Good processes become best practices when the projects see that they can be used and achieve required process and product quality results
- ◆ People, projects, and organizations will change and continue to change if they see the results and see the benefit for themselves!
- ◆ The only high-probability way to get processes to be followed and people to change is to provide “hand-holding” support until those that are being supported see that benefit for themselves



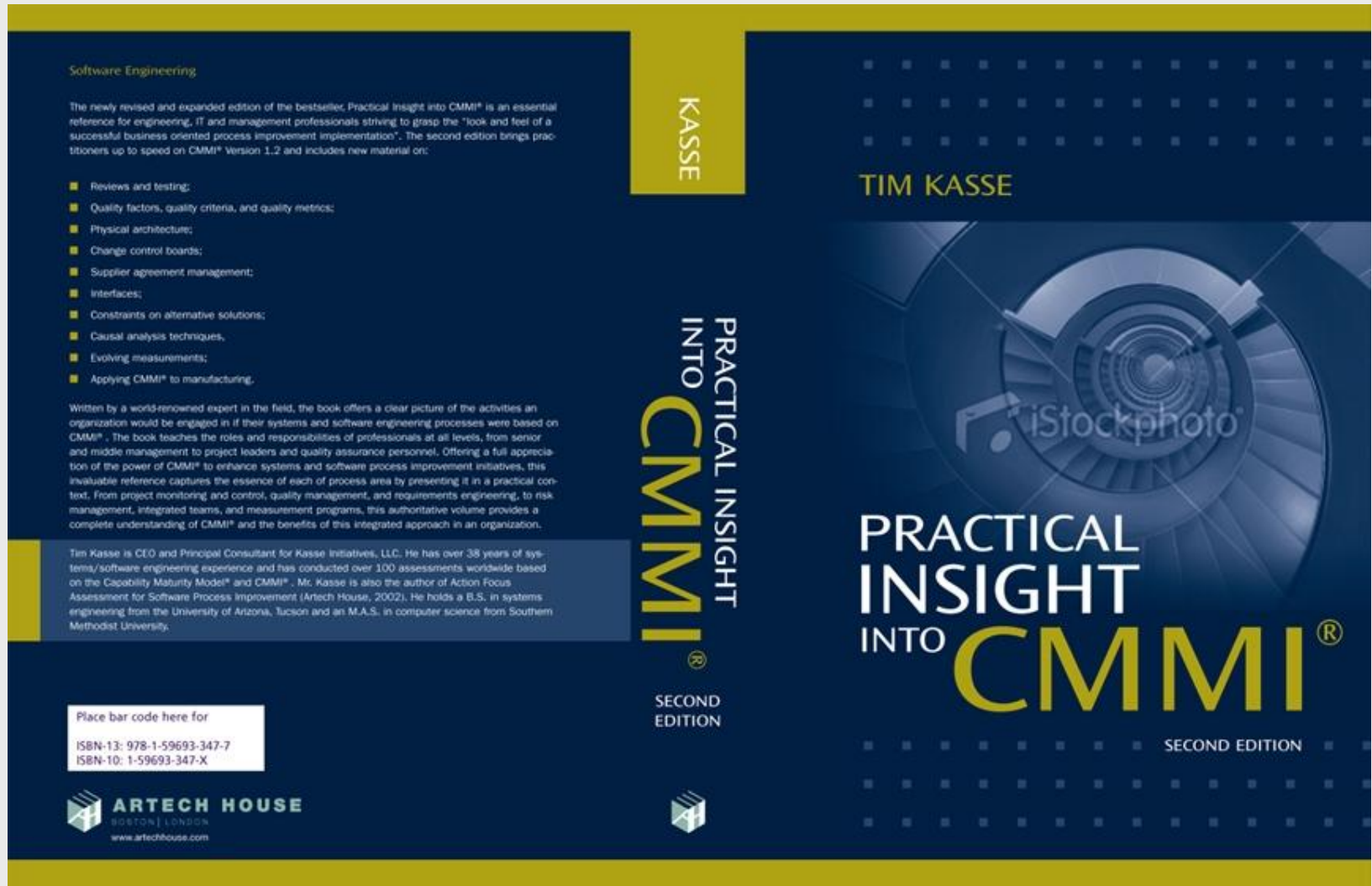
# Tim Kasse

- ◆ CEO and Principal Consultant of Kasse Initiatives
- ◆ Visiting Scientist - Software Engineering Institute
- ◆ Visiting Fellow - Institute for Systems Science / National University of Singapore
- ◆ Author of Action Focused Assessment for Software Process Improvement
- ◆ Author of Practical Insight Into CMMI





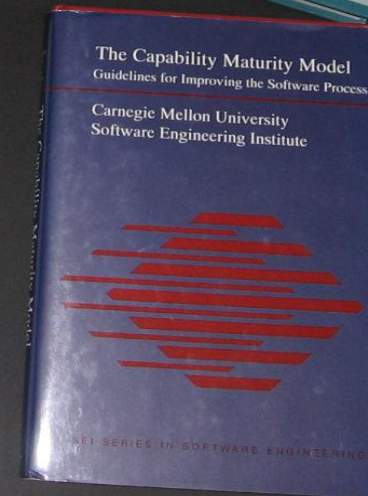
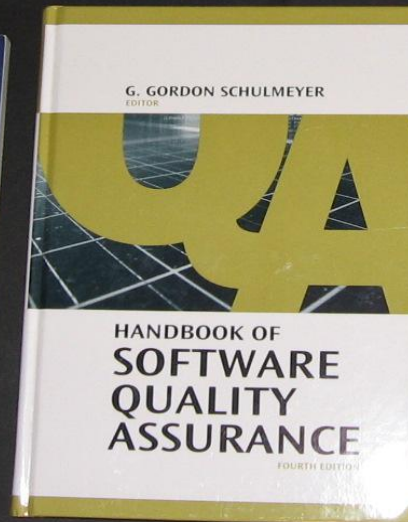
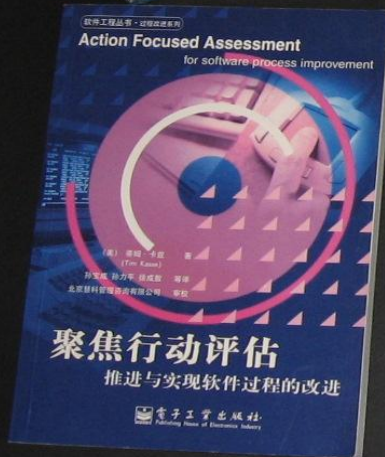
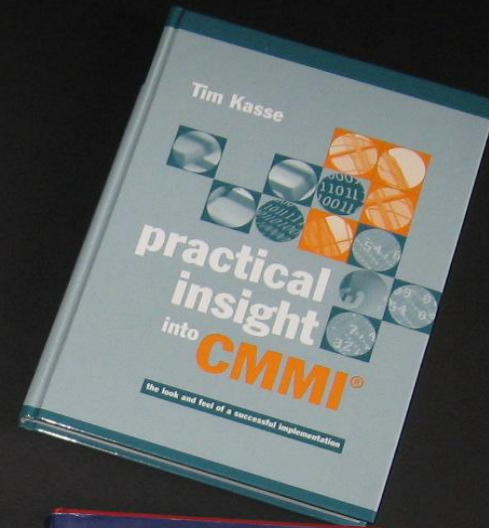
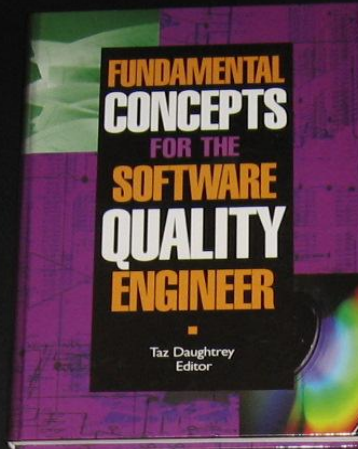
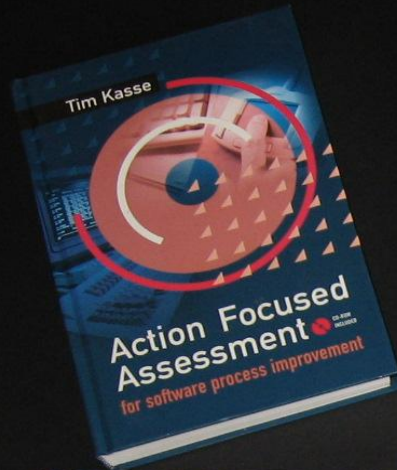
# Books From Kasse Initiatives





# Books

## From Kasse Initiatives - 2





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## CONTACT

DELTA Axiom  
Tel. +45 72 19 40 00  
[axiom@delta.dk](mailto:axiom@delta.dk)

## DELTA AXIOM BLOG



Tim Kasse  
Alec Dorling  
Jørn Jonansen  
Morten Korsaa

## Forside

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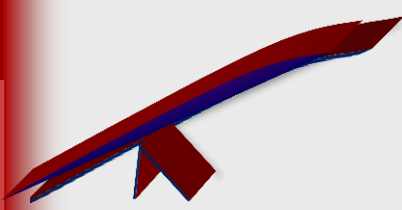
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Bernd Hindel  
CEO & Founder of Method Park



Tim Kasse – CEO & Principal Consultant  
Kasse Initiatives LLC