Strategic Planning: Selling a CMMI-based Improvement Effort to Senior Management

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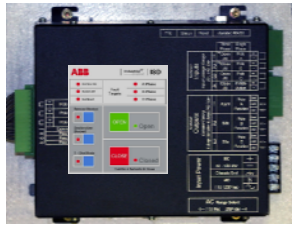
Agenda

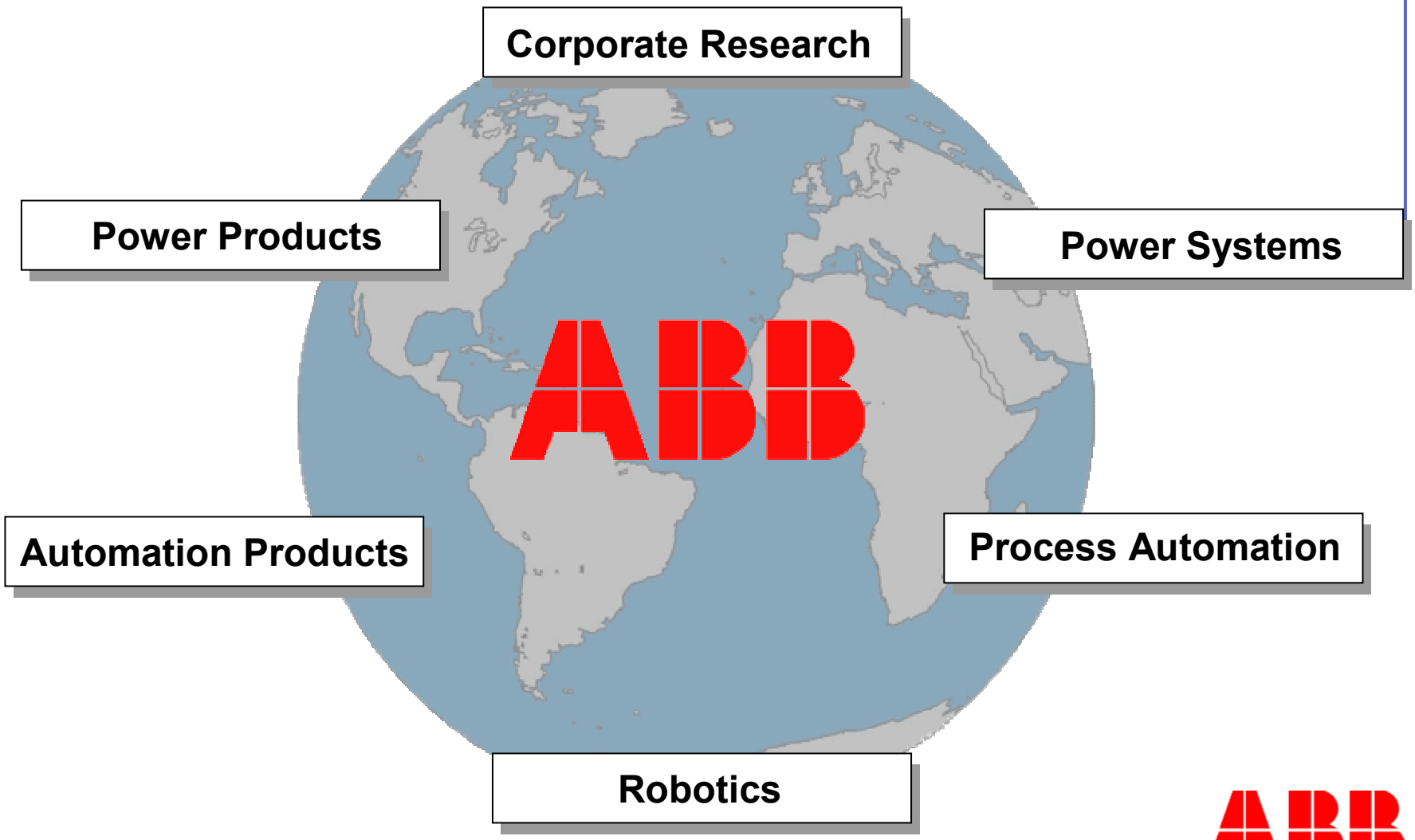
- ABB Overview
- Selling CMMI-based Improvement to Senior Management
  - Business Unit Level
  - Business Area Level
  - As a Strategic Technology at the Division Level
- Supporting CMMI-based Improvement as a Strategic Technology
- Summary

ABB Overview

- Leader in power and automation technologies
- Enable utility and industry customers to improve performance while lowering environmental impact
- The ABB Group of companies operates in more than 120 countries and employs approximately 110,000 people
- ABB became the first company in the world to sell 100,000 robots
- A vast majority of products at ABB have software and hardware components



ABB's Organizational Structure

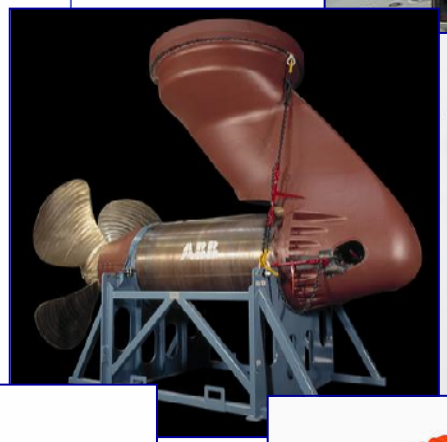


ABB's Products

- Power Products
- Power Systems

ABB's Products

- Automation Products
- Process Automation
- Robotics



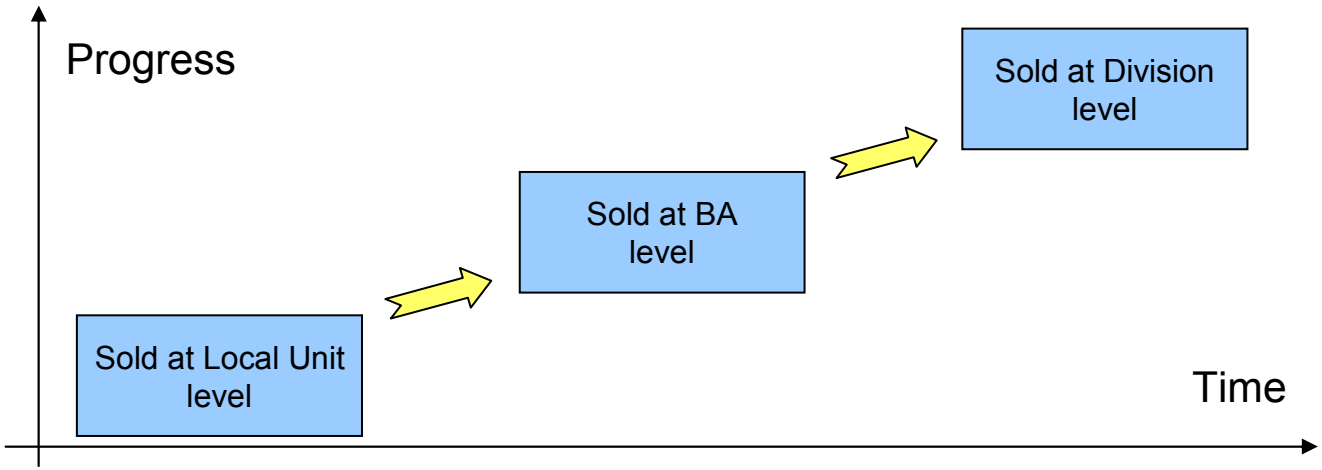
ASPI ABB SOFTWARE PROCESS INITIATIVE

- ABB Software Process Initiative (ASPI)
- ASPI is composed of members from 2 ABB Corporate Research Centers (CRCs):
  - United States: Raleigh
  - Sweden: Vasteras
- Responsible for: Development of appraisal and improvement methodologies, evaluation and deployment of pilots within ABB for CMMI transition, PSP/TSP, etc.

ABB

Evolutionary Approach to Selling CMMI-based Improvements in ABB

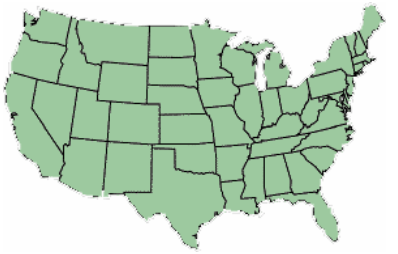
- First phase:
  - CMMI sold at the level of local product development units
- Second phase:
  - CMMI sold at the level of Business Area within a geographic region as a project
- Third phase:
  - CMMI sold at the Division level as a strategic technology



CMMI Sold at Local Product Development Units

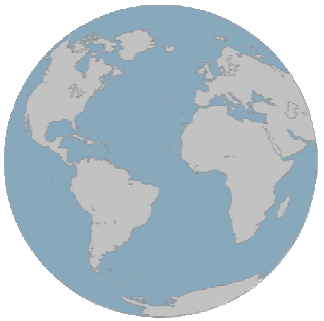
- Characteristics of effort:
  - At the beginning of the Process Improvement Program, the selling effort was focused on local development units
  - Units are relatively small organizations
  - No history of CMMI-related benefits within ABB was available
  - CEPG needed high level of training
  - CEPG needed to develop support tools and methodologies
  - Product development projects always have priority over process improvement activities
- Lessons learned
  - Commitment highly dependent on local organizational changes
  - Commitments are short-term due to annual budget constraints and short-term changes (I'm not sure what you mean by "short-term changes")
  - High degree of flexibility within the organization to make changes
  - High budget constraints of local development units (is this covered in the second bullet?)
  - No synchronization of improvement activities and solutions with other units in the same group
  - Commitment to process improvement based primarily on sponsor's beliefs rather than business objectives
  - Need to constantly monitor commitment from sponsor and organization

CMMI Sold at Business Area (BA) within a Geographic Region



- Characteristics of effort:
  - A BA consists of clusters of development units
  - CMMI-based improvement was sold as a unifying activity to the BA managers within geographic regions
  - Process improvement activities were viewed a projects that compete for resources with product development projects
  - CMMI-based activities sold as projects competing with product development projects
- Lessons learned
  - Commitment to CMMI not as highly dependent on organizational changes
  - Commitment to process improvement based more on business benefits
  - Need to have a portfolio of documented benefits of CMMI-based process improvement efforts
  - Commitment to CMMI-based improvement medium-term
  - Some level of coordination among development units within the region

CMMI Sold at the Division Level as a Strategic Technology



- Characteristics of effort
  - Clear business objective needs to be defined
  - Commitment is sold at high Senior Management level
  - Process improvement is considered as a program not a project
  - Senior Management supports program at the global Division level
  - Longer term commitments are established
  - Process improvement is seen as competitive advantage
  - Process improvement is not as dependent on changes in organizational structure
  - Local development units receive funding and objectives from higher-up in the organization

Process to Sell CMMI as a Strategic Technology

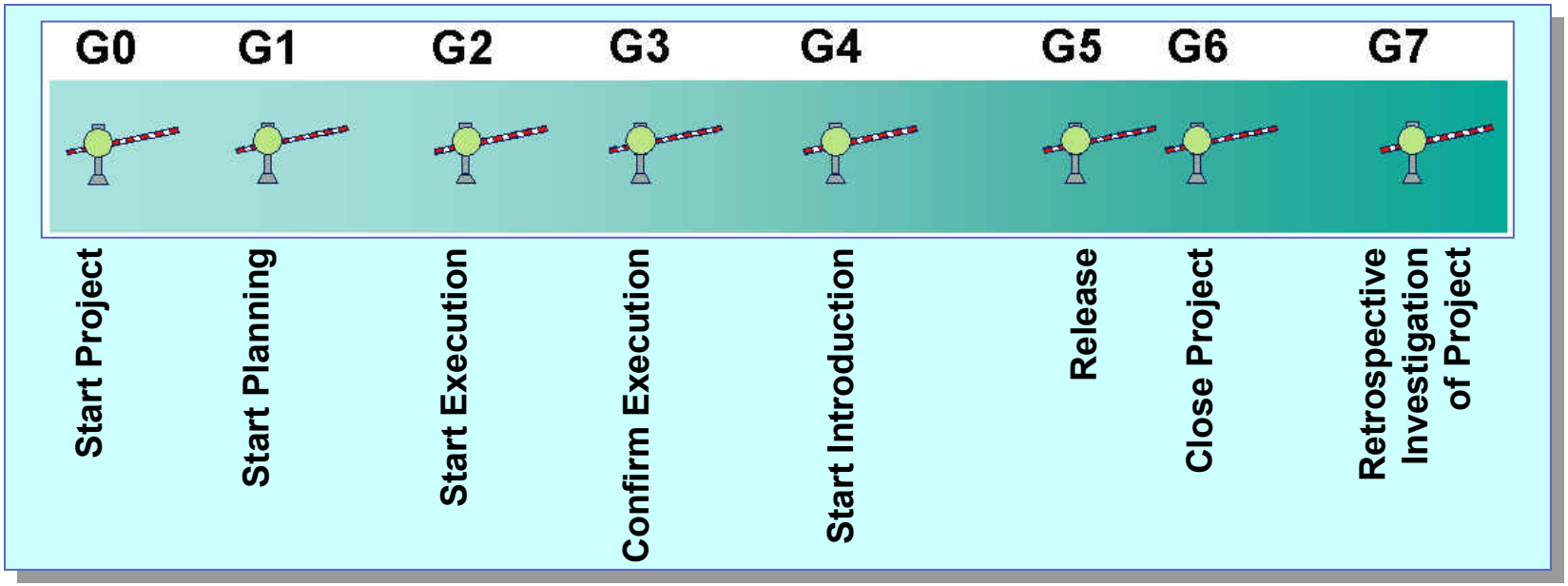
Process for any Strategic Technology

- Corporate Research Program Manager selects Strategic Technology Plan (STP) Lead
- Lead selects team members to develop STP
- Review and document state-of-the-art in Strategic Technology proposed
- Estimated Business and Technology impact in ABB
- Identify current solution within ABB
  - within a program
  - in other programs
  - academia collaborations
  - existing BU projects
- Identify proposed solution within ABB
  - anticipated results
  - collaboration with BUs
  - collaboration with academia
  - competences required
  - estimates of costs
  - estimate of potential revenues

Application to CMMI-based Process Improvement

- Selection of STP lead from CEPG
- Engagement of CEPG members and potential partners in Development Units
- Identify new developments in CMMI and other process improvement related fields
- Identify benefits within ABB both quantitative and non-quantitative
- Analyze current improvement projects with BUs and their impact. Assess current collaborations
- Develop a plan for the future and outline the importance of CMMI as a strategic technology

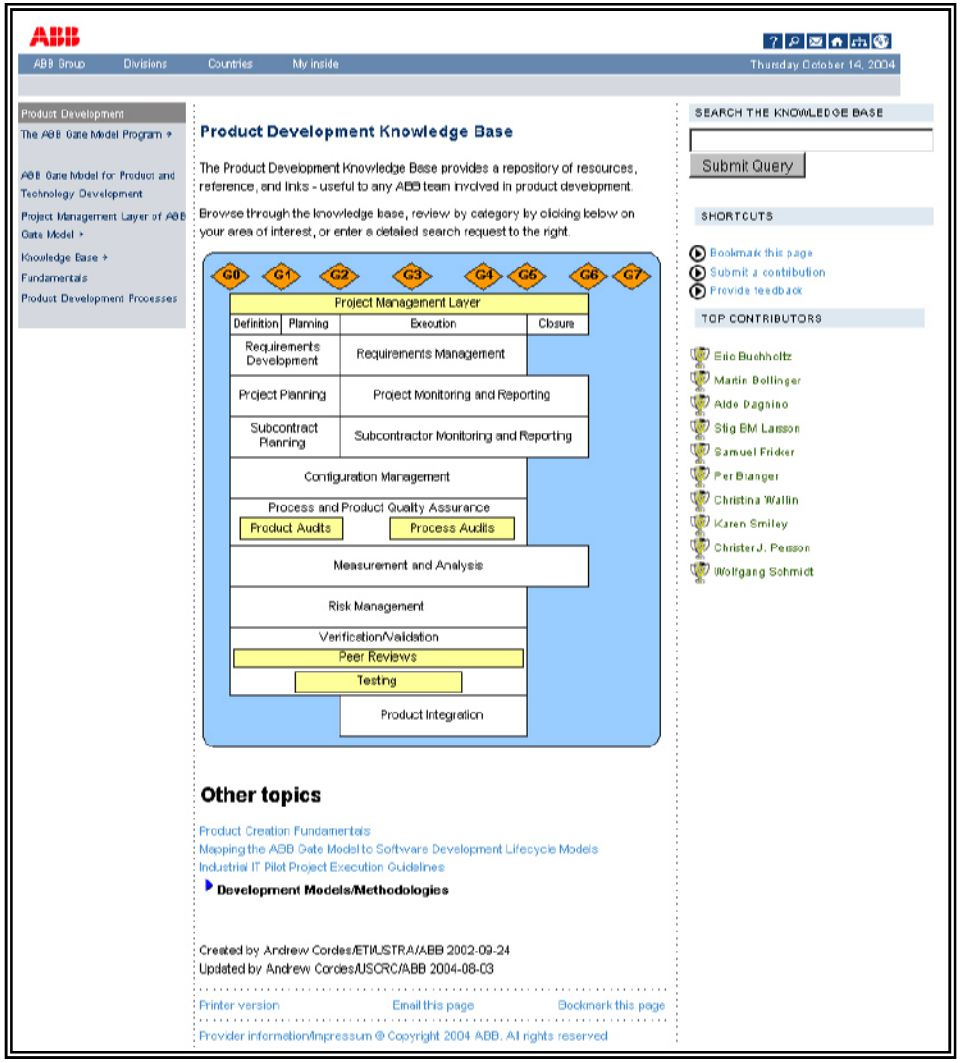
Use of the ABB Gate Model for CMMI-based Process Improvement Projects



- ABB Gate model used on all projects to ensure that:
  - Projects are linked to strategy and business requirements
  - Projects are executed in control of the management
  - Project investment is structured in phases to minimize risk
  - Projects are visible and transparent to the organization
  - Project deliverables have the right quality
  - Projects are delivering the benefits as promised
- CMMI-based improvement projects follow the Gate Model as well
  - Keeps the focus on the business benefits of the improvement effort
  - Actively involves management

Supporting CMMI-based Process Improvement as a Strategic Technology – Knowledge Base

- One-stop web-based source for Product Development Resources and Best Practices – Organized by CMMI Process Area
- Target Audience: Change Agents, QA, Project Managers
- Monthly reminder e-mails listing new additions
- Top contributors recognized
- Weekly metrics collected and analyzed to gauge the effectiveness of the knowledge base



Supporting CMMI-based Process Improvement as a Strategic Technology – Newsletters

- Purpose:
  - "Provide insight into good product development practices"
- Issued quarterly via rich-text e-mail
- Concise, easy-to-digest
- Contents:
  - Conference reports
  - Brief summaries of new technologies
  - Successful ABB development practices
  - Development/Process Improvement cartoon
  - Etc.

Development Practices Newsletter

ASPI ABB SOFTWARE PROCESS INITIATIVE

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Welcome

Welcome to the Development Practices Newsletter. This newsletter will be published on a quarterly basis and will provide insight into good product development practices for ABB employees associated with product development.

9th European Software Engineering Process Group Conference Report

EUROPEAN SEPG 2004

The ninth European Software Engineering Process Group conference was held in London in June. Almost 400 attendees had the opportunity to take part in a program that included a Project Management Symposium, a Metrics Symposium, a number of tutorials, and the main conference sessions.

Three themes were observed: security and safety, engineers and process improvement, and finally metrics. All three themes are also connected. Security is of high importance for many applications. In the conference, it was obvious that the banking sector is in need of more secure solutions. Safety puts similar demands on software development and the conclusion that many draw from the problems is that products need to be designed with security and safety in mind. This leads to the fact that each engineer needs to understand the importance of quality and be involved in the process improvement efforts. A key for this is to define and use the right metrics, useful also for the engineers so that the individual can get valuable feedback on the work performed

Lessons Learned

- Selling CMMI as a Strategic Technology at higher levels in the organization increases the probability of success of the effort
- It is essential to make a business case for CMMI-based improvements to sell them to Senior Management
- Tracking the economic benefits of CMMI-based improvements is essential
- Think Global and act Local brings the best of both worlds

Questions ?