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CMMI and agile: a High Tech R&D Success Story

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ARD
Advantest America
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Version #

Background

INTEL and SEI Collaborating on the development of the SCAMPI B and C Method

ARD Advantest was jointly developing test equipment with INTEL and was offered as a pilot for the new SCAMPI B method

In addition to the opportunity to pilot the SCAMPI B method, this was also an opportunity to test the applicability of the CMMI in a Small High Tech organization exploring the use of AGILE methods

ARD Background

• ARD is the U.S. R&D arm of Advantest Japan

• It is a small (50 person) high tech R&D operation specializing in the development of leading edge electronic testing and measurement equipment

• ARD requires fast efficient operational processes. It is incorporating agile methods to support rapid development of its latest platform

• ARD acknowledged that CMMI may provide process discipline but was concerned that it would be too large and burdensome

•ARD Experience

ARD and CMMI

Improving our process of
on-going improvement

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Introduction of CMMI into ARD

- Obstacles
  - Before CMMI could be taken on, we had to take inventory of what obstacles would prevent or undermine its use/success.

- Constraints
  - We also had to consider what limitations would we be operating under and could we be effective in implementing CMMI.

Obstacles

- Ourselves (Habits and Discipline):
  - History of past success without CMMI
    - ARD has a long history of delivering
  - A "homegrown" improvement program
    - Project Planning had already been iterated with varying degrees of success.
  - "We're so busy, too busy to do this stuff"
    - An engineering favorite

Constraints

- ## Product Focus

  - Weighted heavily on early product life-cycle

- ## Small team size

  - No allocation for a dedicated process "group"

- ## Project Time

  - Clocks ticking… ARD delivers regardless if we embrace CMMI or not.

Key Drivers for Implementation

- CMMI audit
  - Progression of –C, -B, -A audits

- Mapping of the Model
  - Model concepts -> Our data
  - Our data -> Model concepts

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CMMI audit and Artifacts

- Artifacts are tangible items that individuals in the organization can easily relate to, enabling institutionalization of process,
  - CMMI helped reinforce that "artifacts" are what really matter.
- CMMI audit methodology enabled hooks into Artifacts, helping to shape process capture
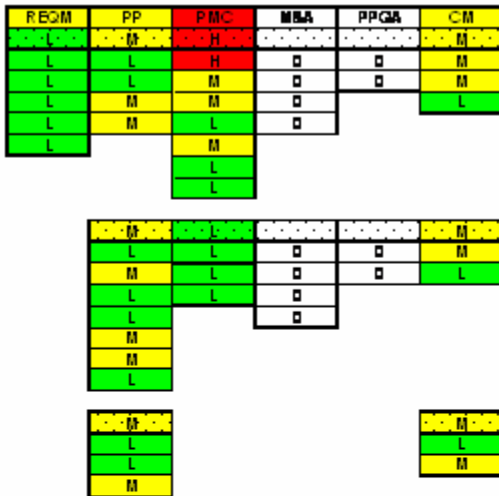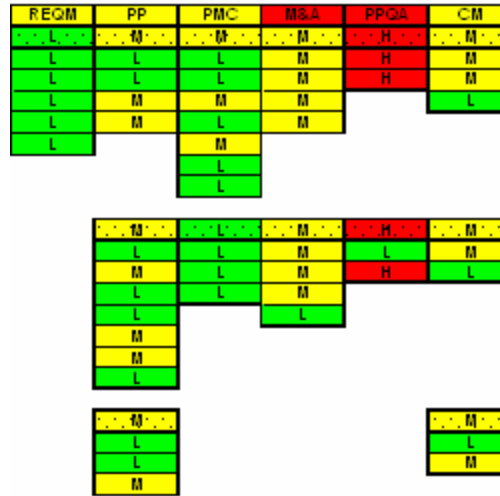
Mapping the Model

- ARD focused on translating the model into our own terminology.
    - Helping to prevent "hanging ourselves" with the model's terms.

- Building our process capture
    - Using the model's "questions and recommendations" to our artifacts and linking them to a process
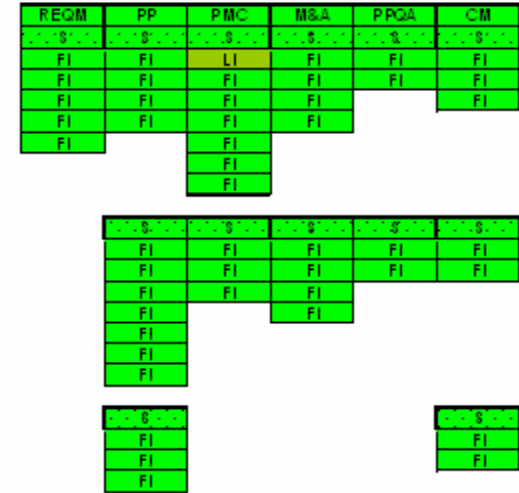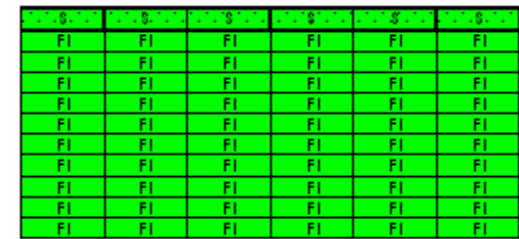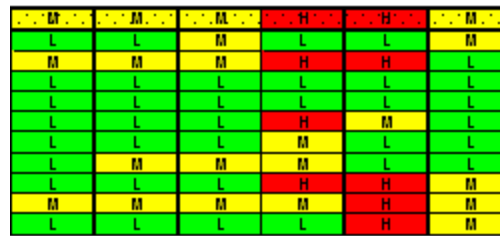
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Progression time line

-B
June

-B
August

-A
November

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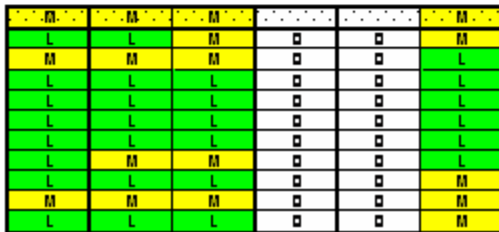
CMMI, A Roadmap for ARD

- Context
  - CMMI model provided the context in which to view our artifacts
  - This provided us a direction on how to make an artifact "concrete" and "measurable"
    - Value as an "official organization artifact"…
    - not just a data pile of interesting stuff

CMMI, A Roadmap for ARD

- ## Validation

  - ### As a reference, CMMI provided the framework to validate our artifacts, processes, policies

    - #### Identifying

      - Do we have the right artifact, process, policy ?

    - #### Simplifying

      - Is this efficient ?

    - #### Standardizing

      - Is this a template for the future ?

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ARD, value in CMMI

- The biggest value to ARD of CMMI is the "accounting" like audit process.
  - What is this ?
  - Where is it ?
  - How does it link ?
  - What is it supporting ? (a process -> policy)
- Together this is a "concrete", "real method" to help us achieve results.