





Agile and SEMAT – Perfect Partners

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with
Ian Spence and Pan Wei Ng

You all know what agility is

A cartoon illustration of Homer Simpson, looking surprised with wide eyes and a slightly open mouth.

Agile = Scrum

A cartoon illustration of Marge Simpson, looking towards Homer with a neutral expression.

Agile = Scrum
+ User Stories +
TDD

Agile Manifesto

We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

We know...

Teams and organizations make too many unnecessary but simple mistakes



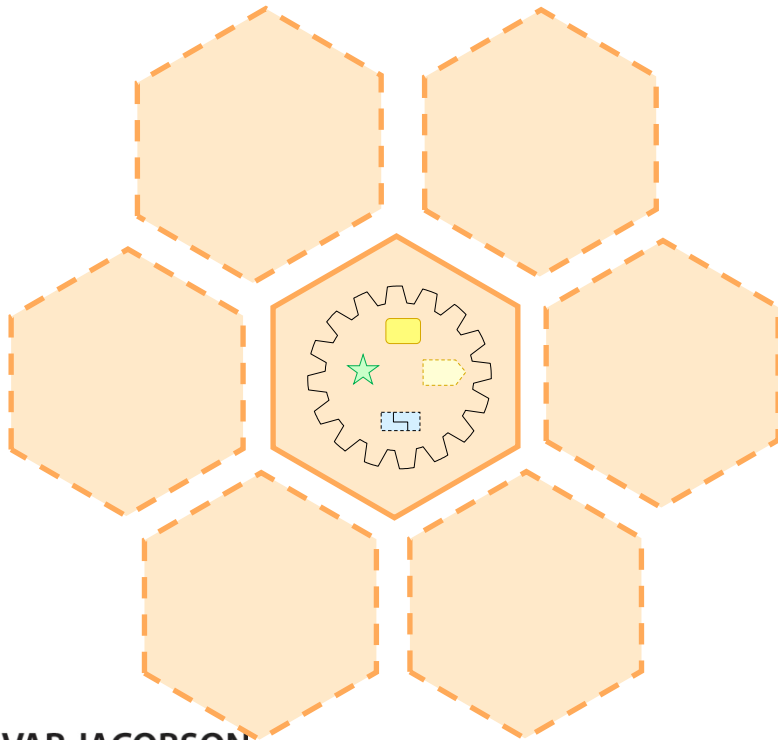
There is no one-size-fits-all to software development



We need a foundation for software development

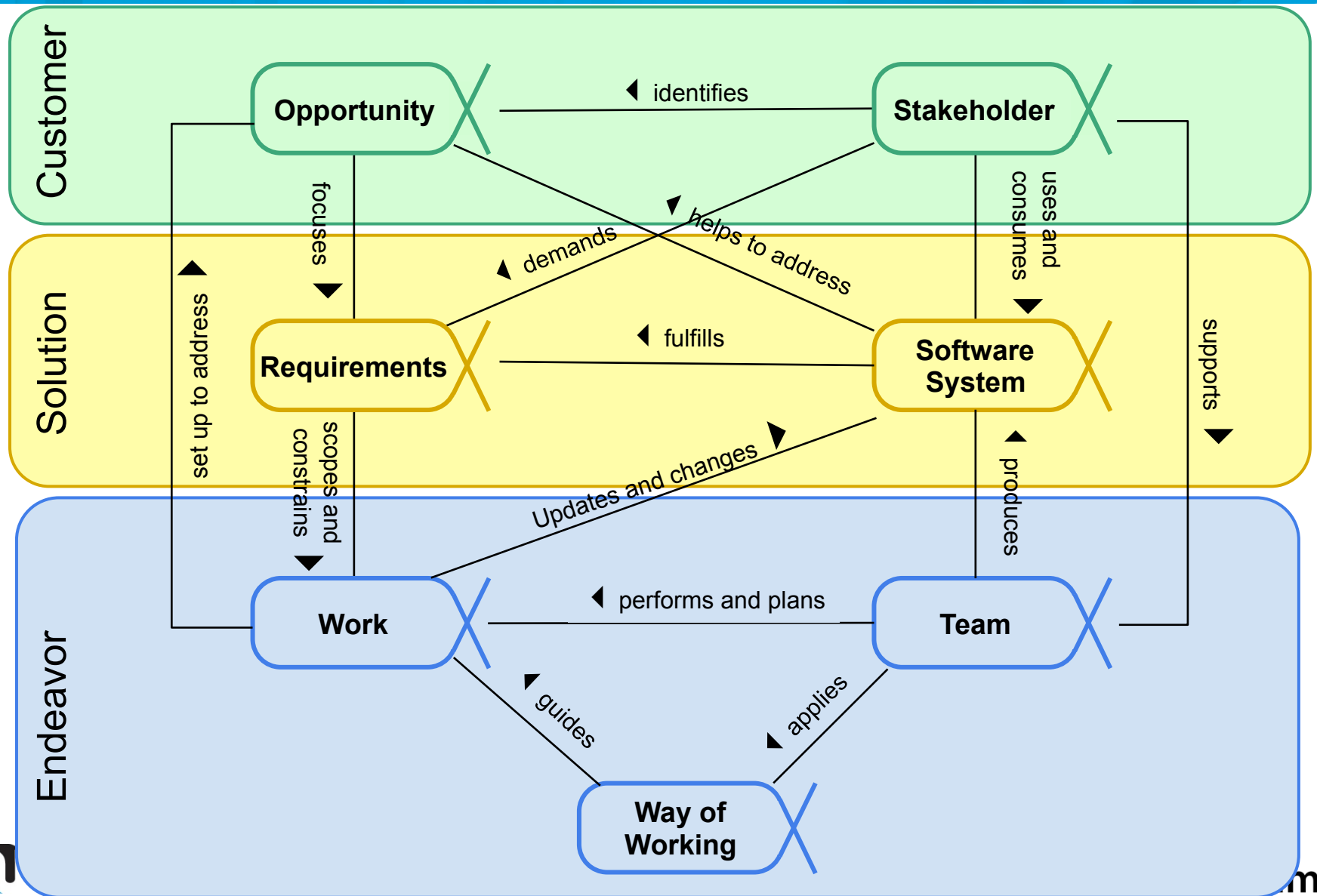
SEMAT started to find a Common Ground – a Kernel

- At the heart of the the SEMAT approach is the Kernel called Essence – a simple state-driven model of software development
- It captures the small set of things that are **universal to all software development endeavors**; including the things that a team always has to consider or work with when developing software.

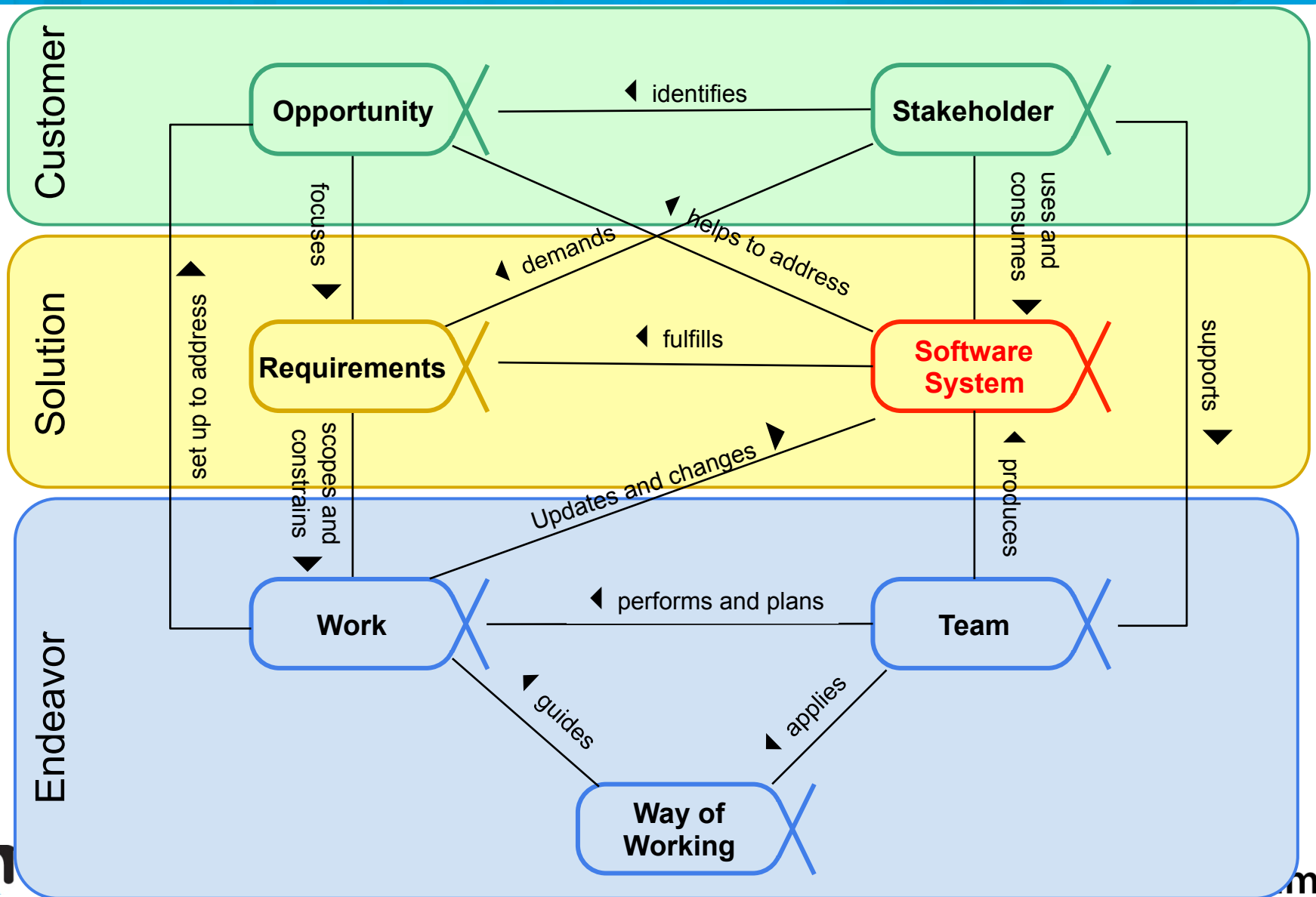


- By adding Practices on top of the Kernel you create your specific Way of Working.
- Practices such as Scrum, User Stories, Test-Driven Development, etc.
- But that is not the subject of today. ☹️

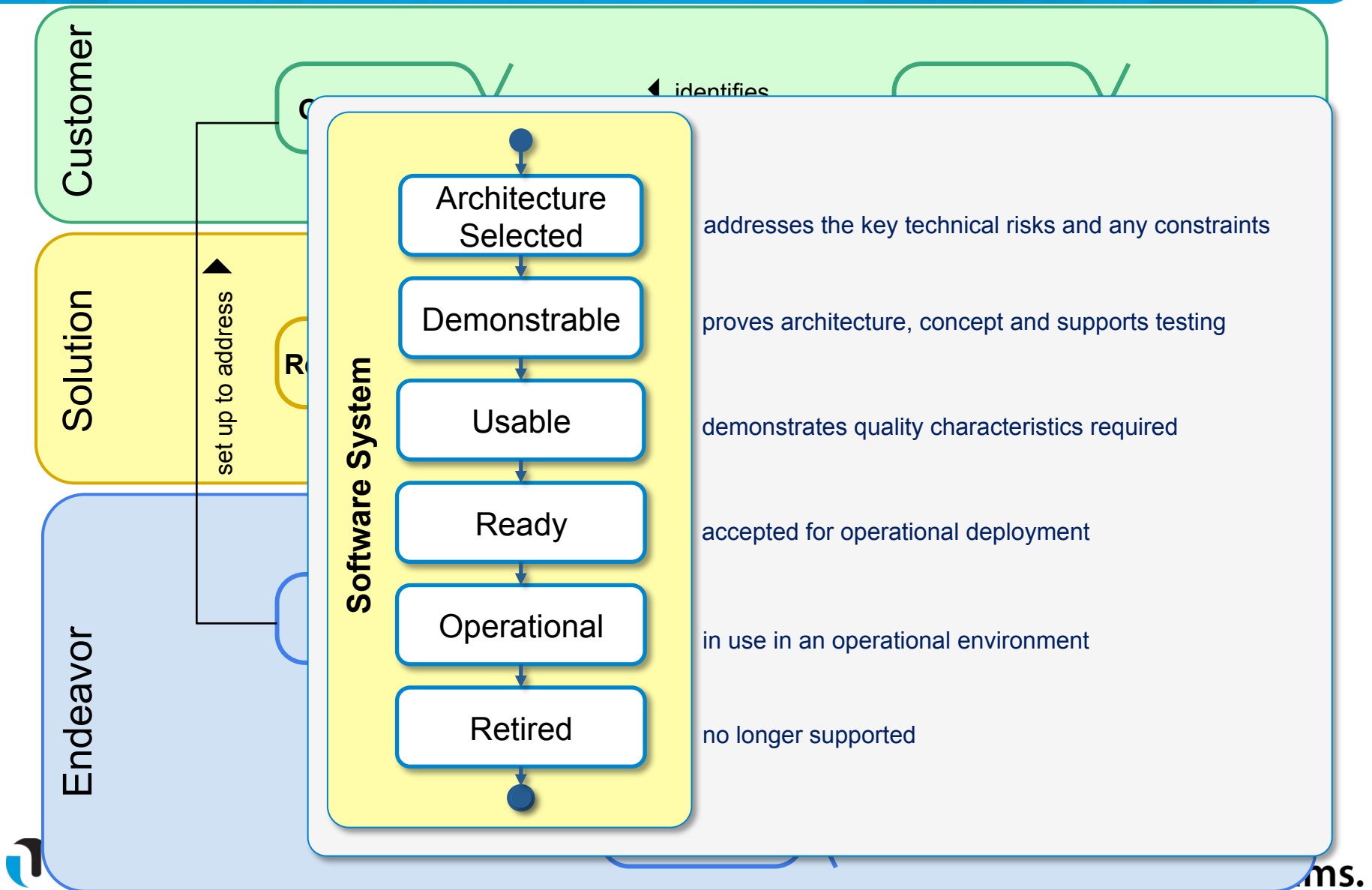
The Essence Kernel



Essence – the Kernel



The alphas have states and checklists



SEMAT and Essence made tangible

Requirements – Full Checklist

Requirements

- Conceived
- Bounded
- Coherent
- Acceptable
- Addressed
- Fulfilled

Requirements

- Bounded
 - The purpose and extent of the system are agreed
 - Success criteria are clear
 - Mechanisms for handling requirements are agreed
 - Constraints and assumptions identified
- Fulfilled
 - The system fully satisfies the requirements and the need
 - There are no outstanding requirements items preventing completion

cards & checklists

Boards



SEMAT

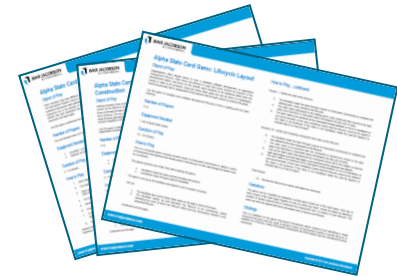
COMMUNITY
www.semat.org

Play the Games



- You can play many games

Progress Poker	Lifecycle Layout
Chase the State	Milestone Mapping
Objective Go	Health Monitoring
Checkpoint Construction	And more.....



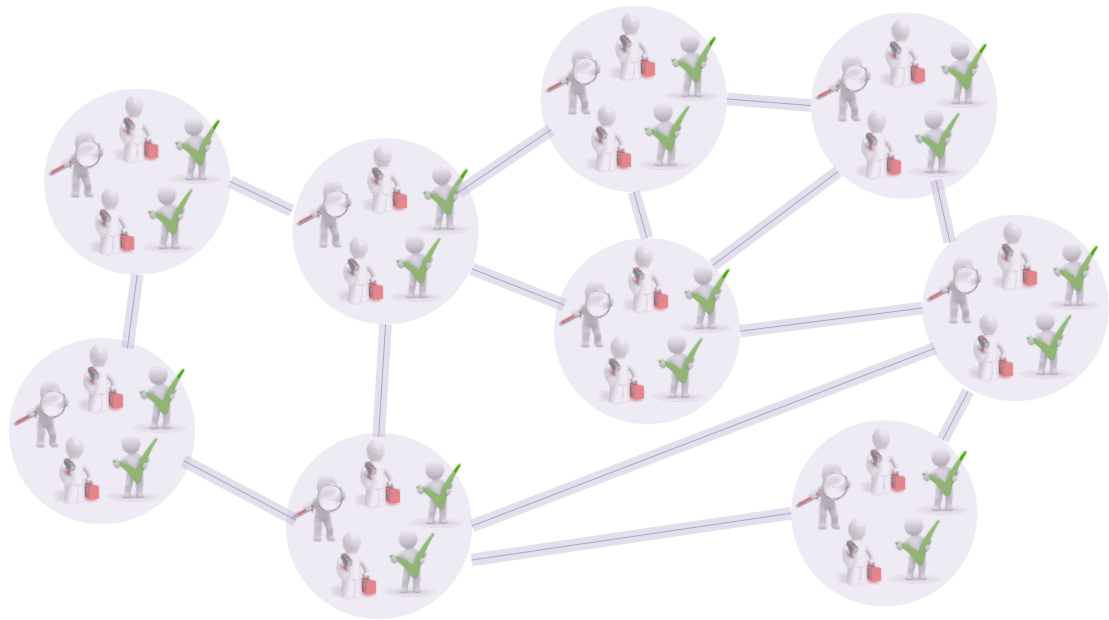
- <http://www.ivarjacobson.com/alphastatecards/>

Applying the Essence



Helping Agile Teams

And Agile Organizations



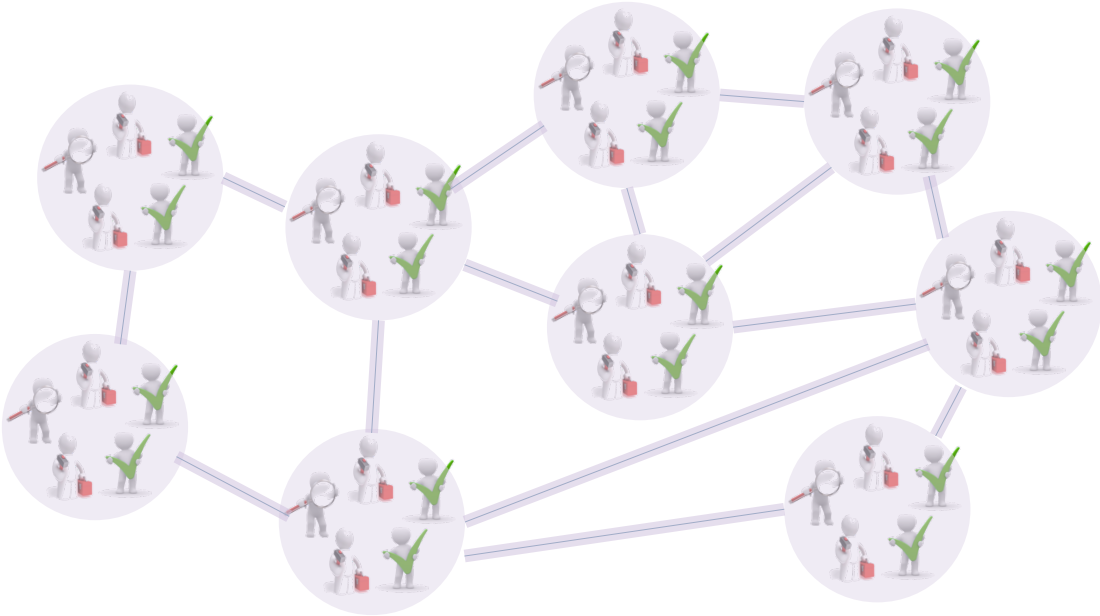
Creating **winning** teams.

Applying the Essence



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Learning Agile Software Development



Reprinted by permission of the KTH Royal Institute of Technology, Mira Kajko-Mattson

Learning (agile) software development

- What to learn?
- How to demonstrate that students have actually learnt?

In Action:

- KTH Royal Institute of Technology

Benefits:

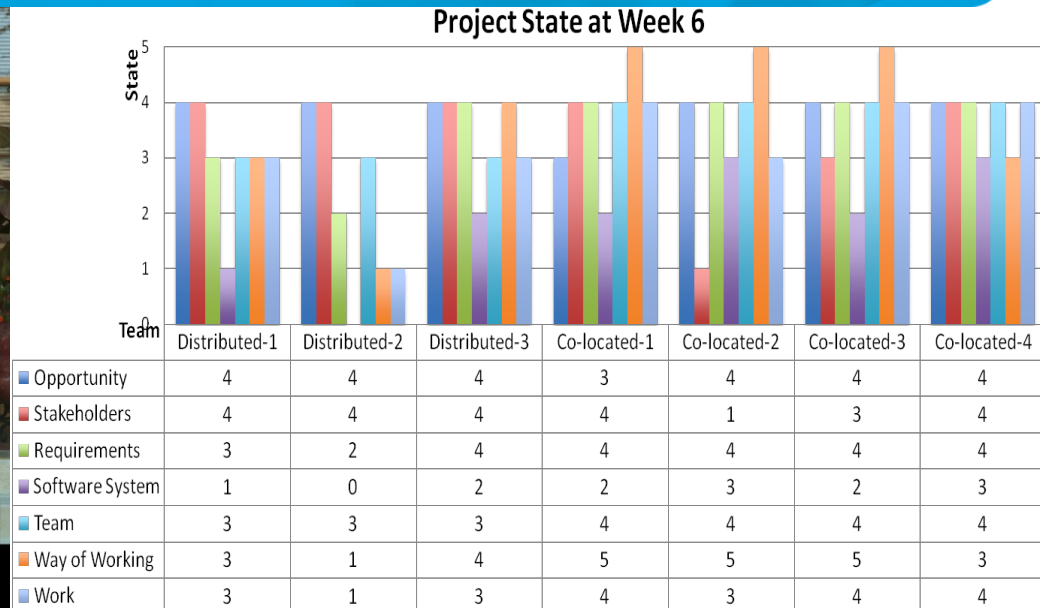
- Cards define check points for student project work
- Lightweight combination of theory and practice

Creating **winning** teams.

Taking a holistic approach and exploiting the common ground



Carnegie Mellon®



Reprinted by permission of Cecile Peraire, CMU West

All 7 CMU-SV practicum teams used different sets of s/w engineering practices

Progress & Health

- Measure progress & health of your teams regardless of practices selected.

Avoiding Problems

- Detect systemic problems early & take appropriate action

Getting Started

The image is a composite. The top portion shows a project management board with four horizontal swimlanes. From top to bottom, the swimlanes are: Stakeholders (green cards), Opportunity (green cards), Requirements (yellow cards), and Software System (yellow cards). Each swimlane contains multiple cards with text and checkboxes, connected by horizontal lines. The bottom portion of the image shows a man in a light-colored t-shirt sitting at a wooden table, looking down at several sticky notes he is arranging on the table. The sticky notes are color-coded to match the board above: green, yellow, and blue.

Understanding where you are

- What's already been achieved?
- What are the risks?

In Action:

- An internal coach in a large telecom. Product company.

Benefits:

- Detected risks in working with stakeholders.

Tracking Progress and Health

SEMAT Accelerator

MINT BOX

Usable

- The system can be operated by stakeholders who use it.
- The functionality provided by the system has been tested.
- The performance of the system is acceptable to the stakeholders.
- Defect levels are acceptable to the stakeholders.
- The system is fully documented.
- Release content is known.
- The added value provided by the system is clear.



Daniel Graziotin

Kernel for Semat

Opportunity : Value Established

Stakeholders : In Agreement

Requirements : Bounded

Software System : Usable

Architecture Selected

Demonstrable

Usable

Ready

Operational

Retired

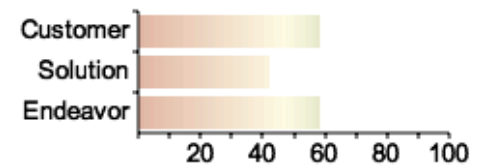
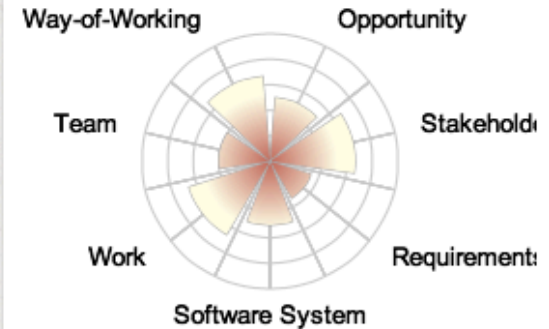
Work : Under Control

Team : Formed

Way-of-Working : In Place

<http://sematacc.meteor.com/demo>

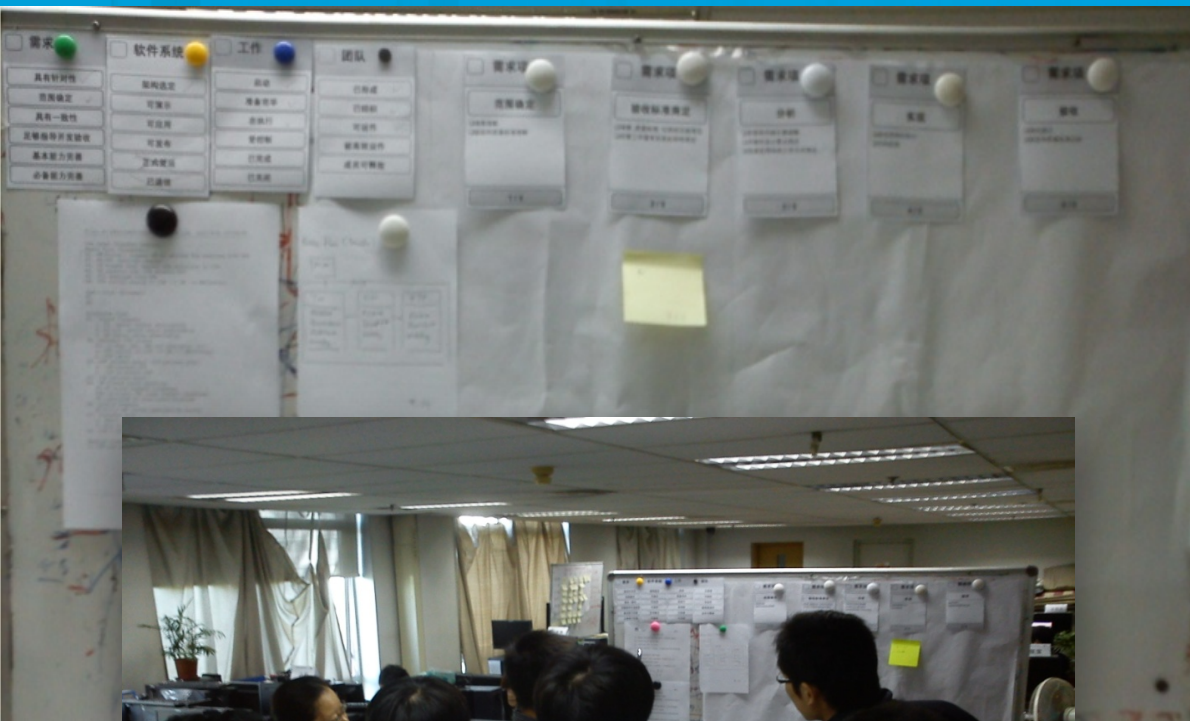
Status



Pekka Abrahamsson

Creating

More Tracking Progress and Health



Tracking progress

- How to communicate current state and to set sprint objectives

Action:

- Internet media development project with 6 teams

Benefits:

- Cards help to slice the requirements to set sprint goals
- Cards define criteria for progressing through a Kanban

Inspecting and Adapting

Inspecting & Adapting

- Where are the bottlenecks?
- How to improve?

In Action

- Consumer electronics (e-book) development

Benefits

1. Cards help identify bottlenecks and describe new way of working
2. Members can start practicing new way of working immediately



Scaling Up

Scaling Up

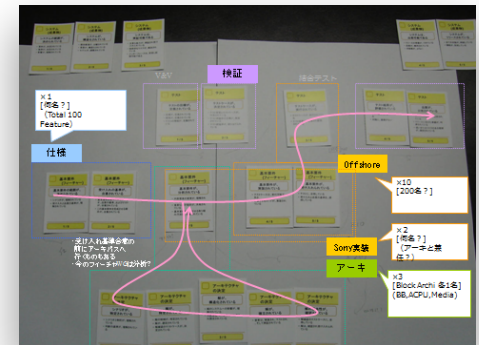
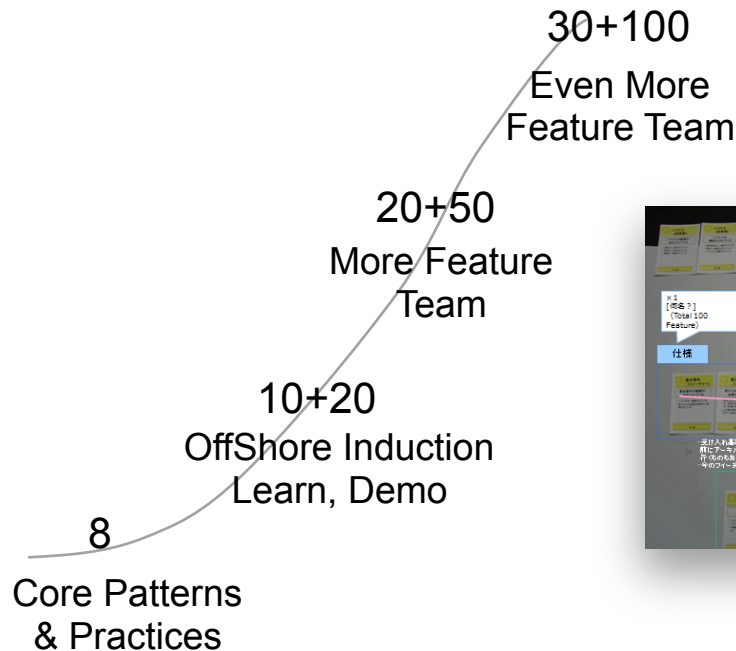
- How to help large development team collaborate

In Action:

- Large development involving offshore members (50+200) developers

Benefits:

- Cards facilitate describing new way of working
- Cards help new (feature) team leaders guide members



The Kernel provides a shared frame of reference



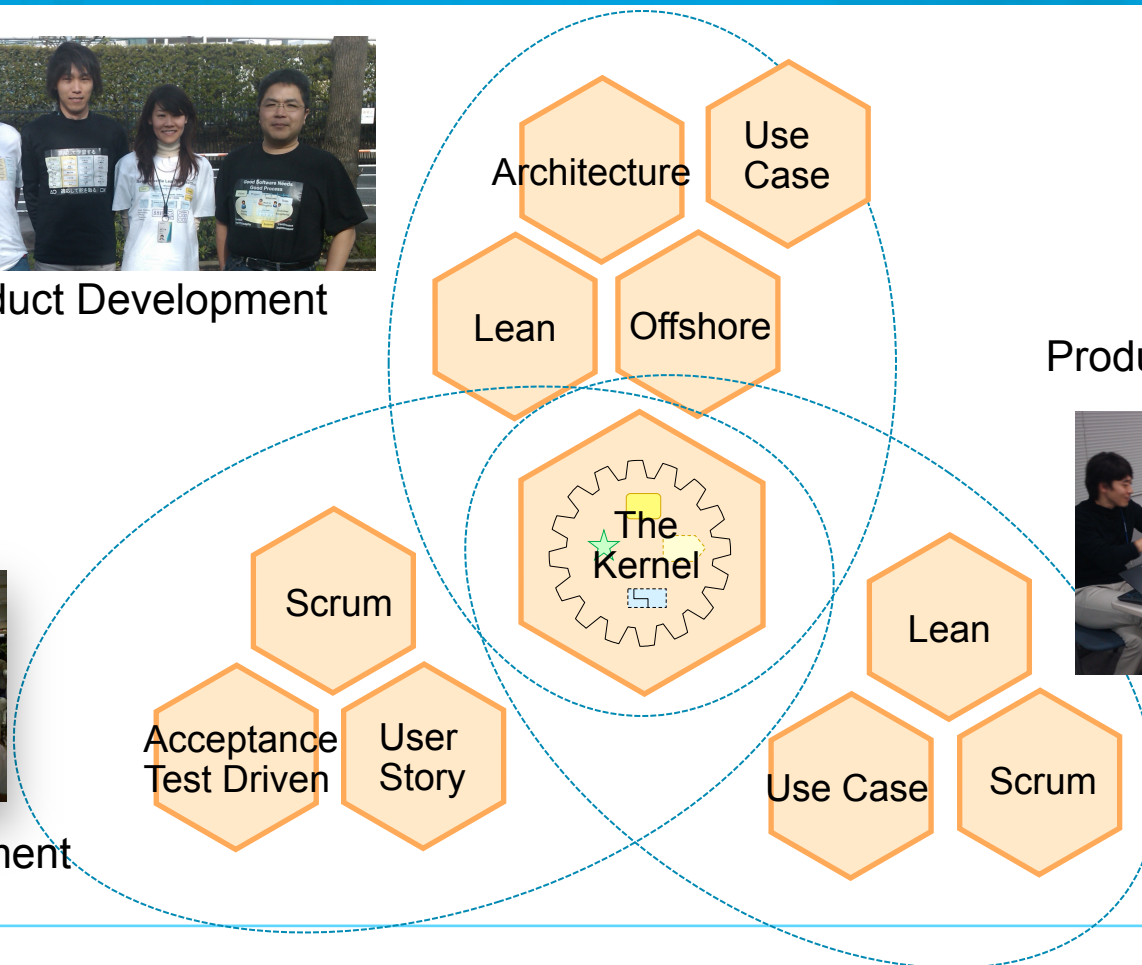
Offshore Product Development



Internet Development



Consumer Product Development



Many Ways of Working on the same kernel.

SEMAT for Agile Teams - Summary

- Understand where you area and where you are going
 - Understand what needs to be addressed
 - Holistically track progress and health
 - Keep projects in balance and avoid catastrophic failures
 - Form good sprint goals and other objectives
 - Bring people together
- Learn and share your way of development
 - Share and compare practices
 - Build effective ways of working
 - Define practice independent checkpoints, and lifecycles

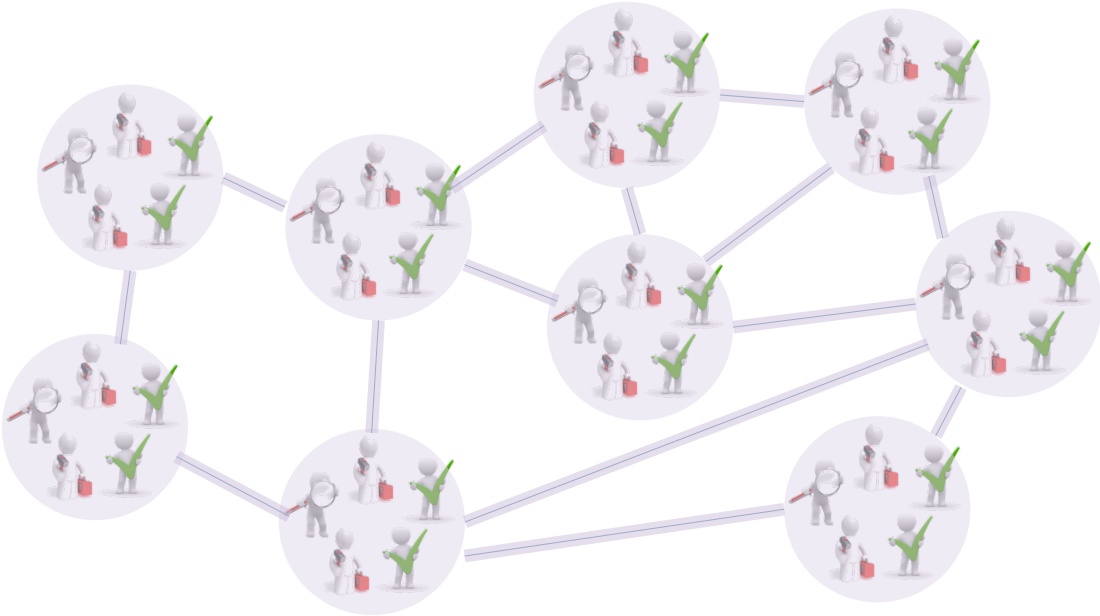
The Value of Essence

Applying the Essence



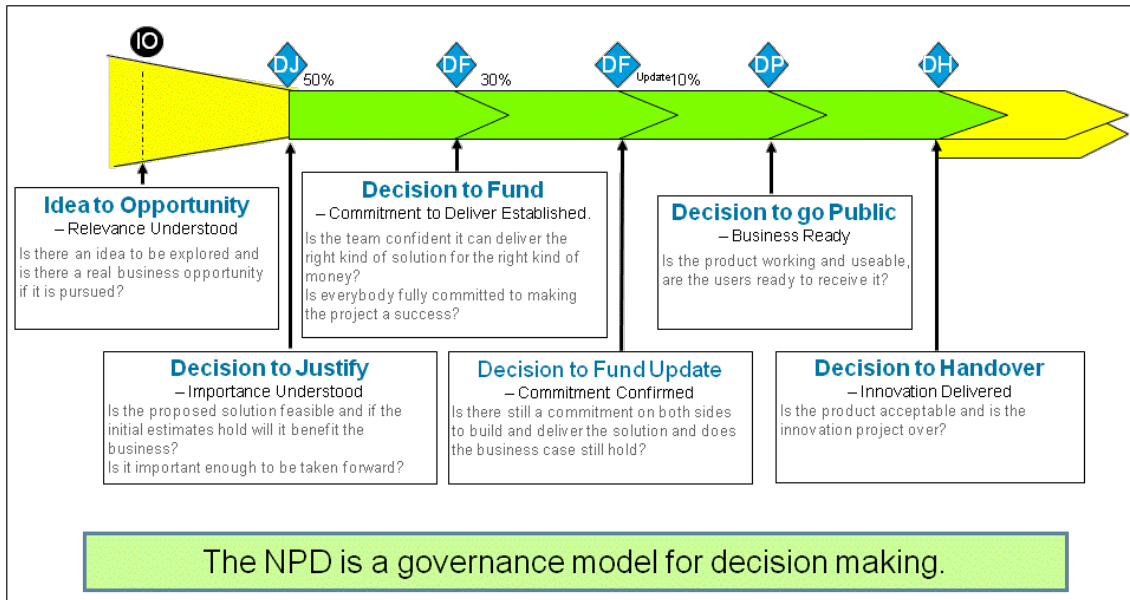
Helping Agile Teams

And Agile Organizations



Creating **winning** teams.

KPN New Product Development Agile in a controlled environment



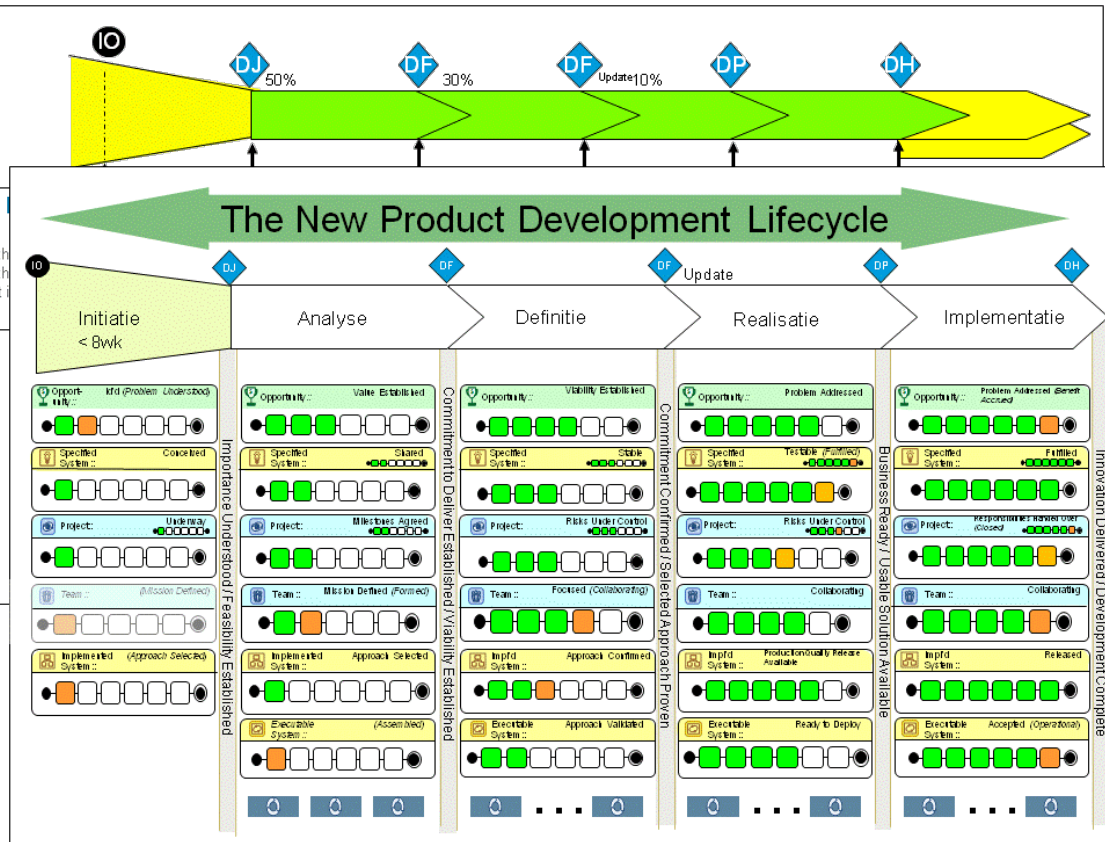
NPD Rocket

- From signed off documents to recognized achievements

QA & Compliance

- From bill of materials to results
- From collecting specifications to filling in checklists

KPN New Product Development Agile in a controlled environment



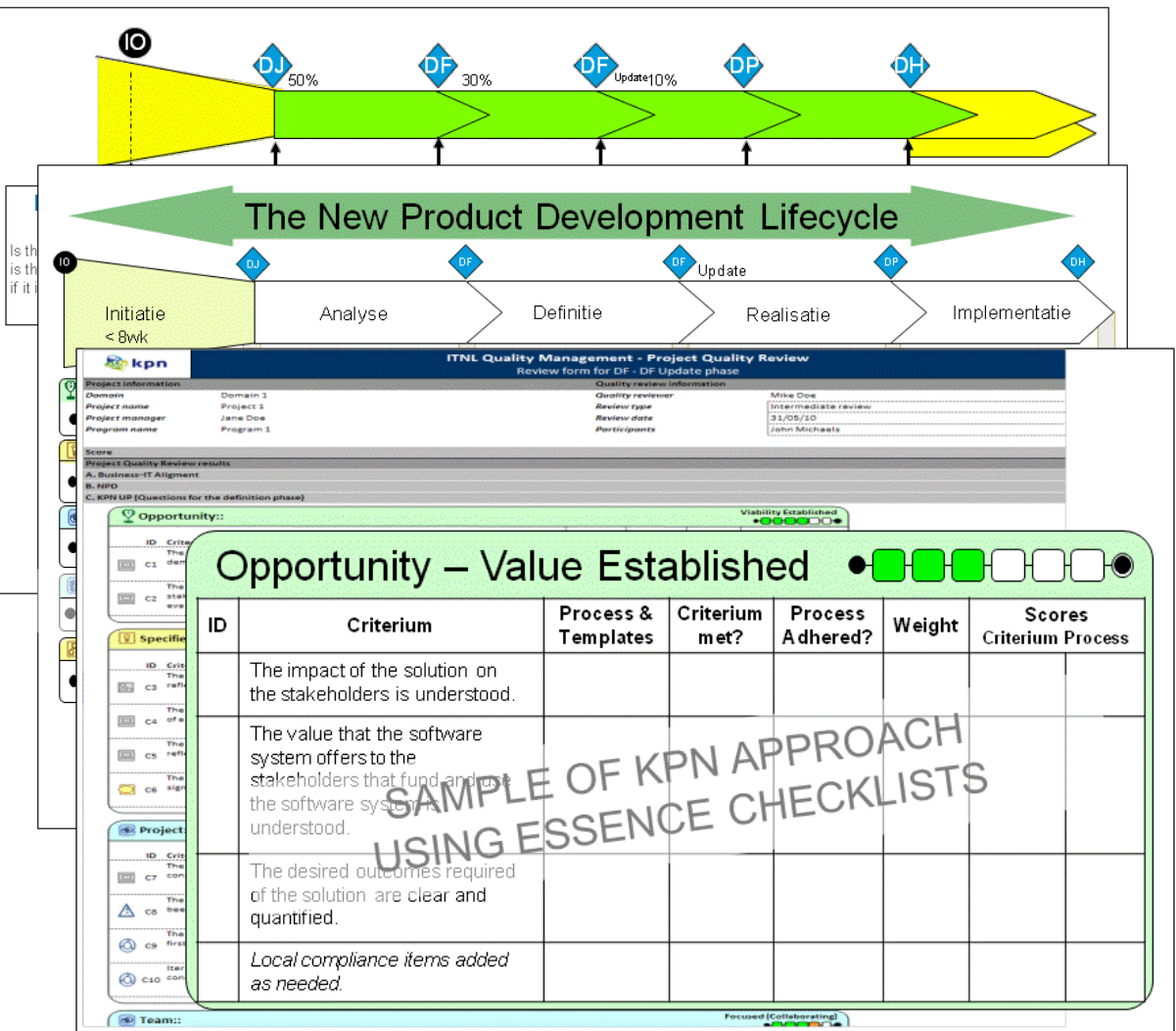
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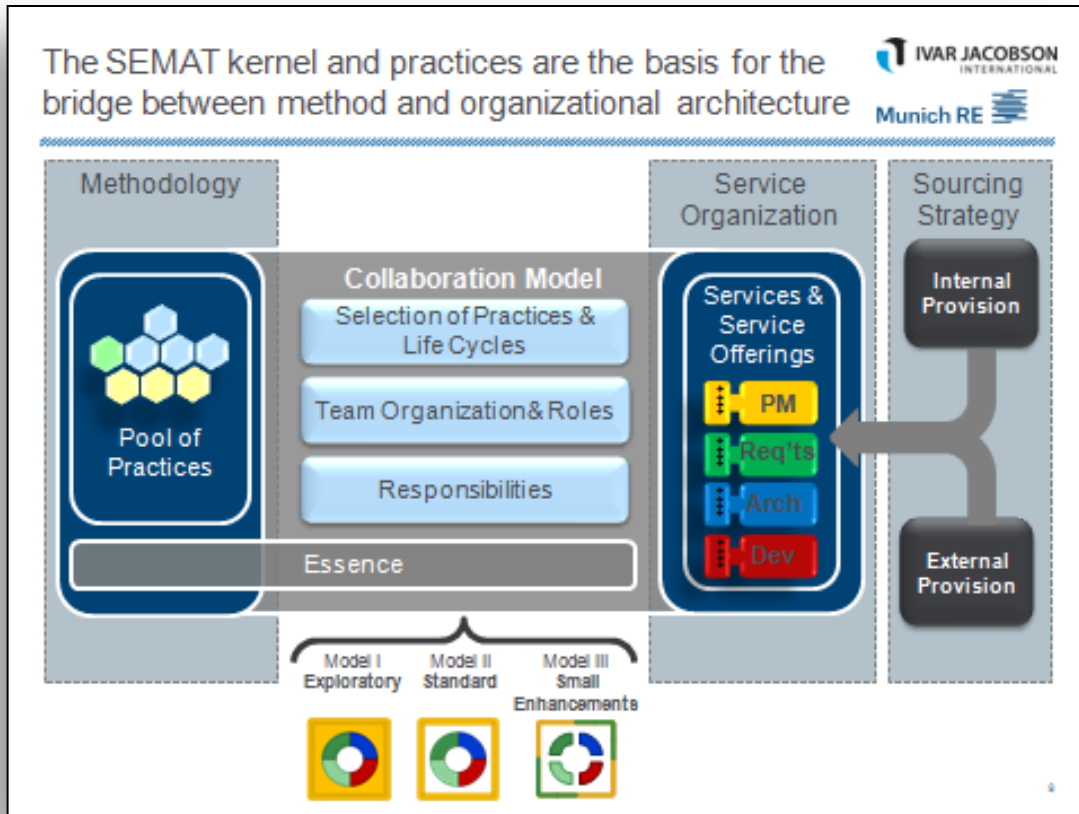
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MunichRe: A common model and an individual way-of-working



The challenge

- Globally distributed Application Dev't
- High-levels of out-sourcing & off-shoring
- Service organization

The solution

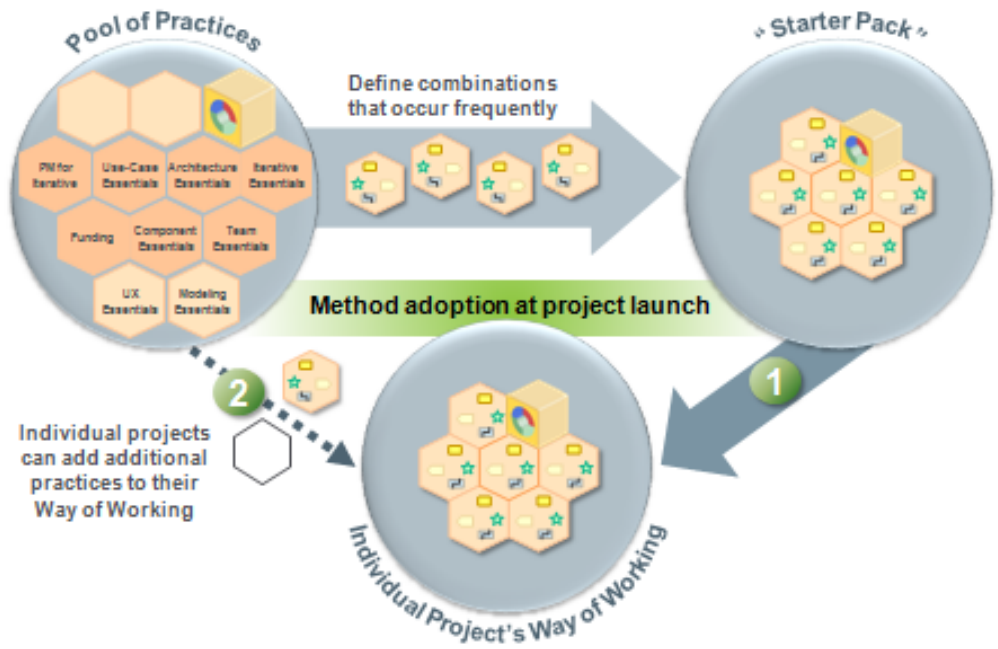
- Agile starter packs
- Practice Exchange
- Governance as a first class citizen

MunichRe: A common procedural model and an individual way-of-working

The SEMAT kernel and practices are the basis for the bridge between method and organizational architecture



Methodology Element II: Practices Combining Practices as a Way of Working for Individual Projects



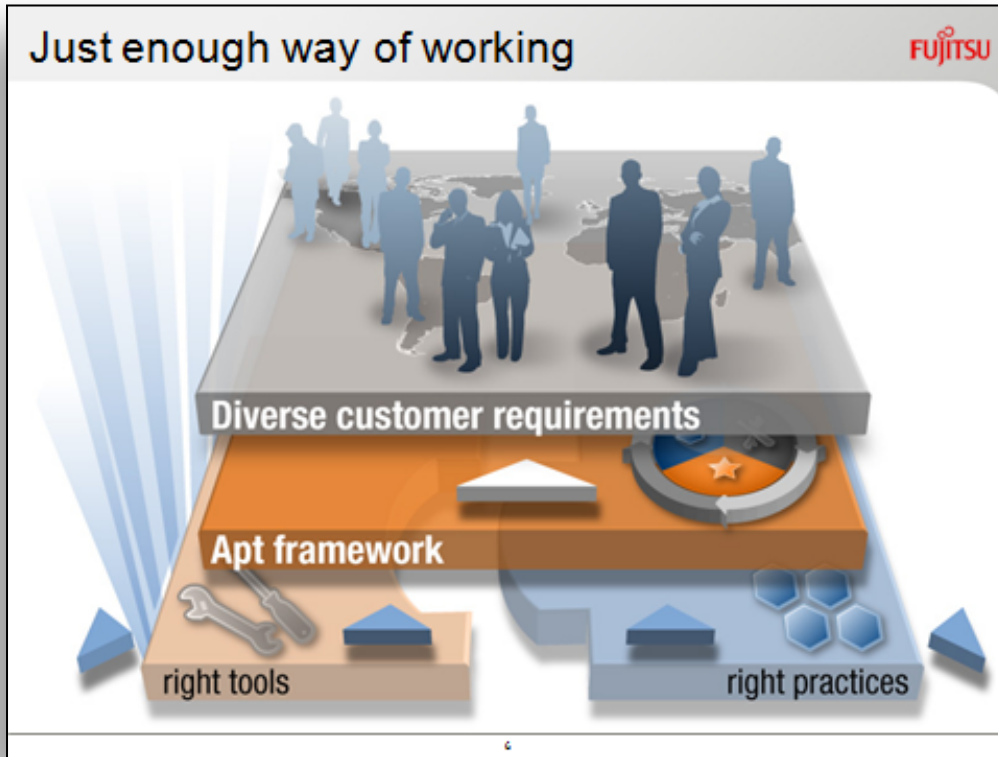
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Fujitsu: Building an Agile ALM



Enabling Fujitsu's industrialised delivery of application services

- Encourages a lean approach to application services.
- Empowers teams with tools and practices

Benefits include:

- Real-time visibility of status and progress
- Integration of methods and tools saves time and cost whilst giving higher quality and productivity

Creating **winning** teams.

Fujitsu: Building an Agile ALM

Just enough way of working

FUJITSU



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Fujitsu: Building an Agile ALM

Just enough way of working

FUJITSU

Apt Planning & activity management

FUJITSU

Method Composer

Activity Management

Apt Tasks

Cards and links in Jira

The screenshot displays the Jira interface for a task titled "Select and Prioritize Use Cases" (Issue ID: EssUP-1-5). The task is in a "Reopened" status. The interface includes a navigation bar with "Dashboards", "Projects", "Issues", and "Administration". The task details show it was created on 26/Oct/12 and is due on 26/Oct/12. The task description includes a list of goals: "Fit within the time and budget available", "Deliver the highest value to the users", and "Reduce the risk of not reaching a feasible solution in time and within cost". It also lists "Recommended approaches" such as "Choose scenarios to demonstrate the achievement of project milestones" and "Team prioritizes flows". The task is assigned to Dave Cuningham, with Francesca Riches as the reporter and Dave Cuningham as the participant. The task is categorized under "Method Composer" and "Activity Management".

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SEMAT for Agile Organizations - Summary

- Define practice independent governance procedures and quality gates.
- More readily and easily form teams and mobilize teams of teams.
- Scale agile approaches across teams of teams and systems of systems.
- Select enterprise level tooling.

Conclusion:
SEMAT and Agile are Perfect Partners

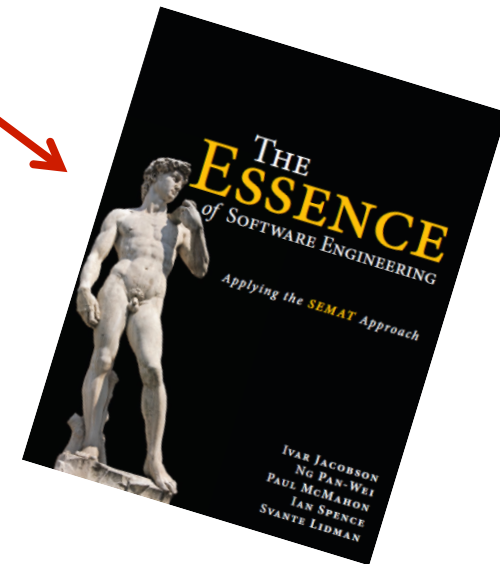
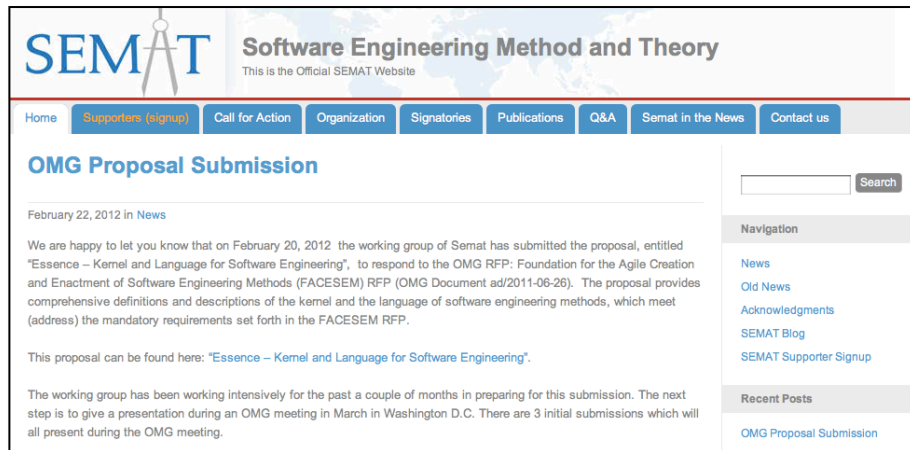


Get the cards and play the games



<http://www.ivarjacobson.com/alphastatecards/>

- Join the community and get involved
- Become a supporter.
Go to www.semat.org
- Or read the book



Thank You for Your Time!

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